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ARTICLE XIV.

LECTURE DELIVERED BY DR. J. BROWN, BEFORE THE MACON COUNTY MEDICAL SOCIETY, JANUARY 1, 1867.

[After the delivery of the Lecture, a resolution was passed by the Society to furnish a copy to the city papers, and both the Medical Journals in Chicago.

MR. PRESIDENT, LADIES AND GENTLEMEN:—

At a recent meeting of the Macon County Medical Society, a resolution was passed requiring the President to deliver a valedictory address before them, and that the public should be invited to attend. In accordance with that resolution I appear before you to discharge that duty. I am well aware, that to accomplish this in such a manner that it shall be both interesting and profitable to this audience, is no ordinary task, especially by one who is not in the habit of speaking in public.

The question is frequently asked, "What is the object of all these Medical Organizations; and what good is to result from them to the Medical profession, or to the general public?" I will endeavor to answer these questions as briefly as possible.

The grand and principal object of the formation of the American Medical Association, was to improve the system of medical education in the United States. Previous to the formation of this Association, there was hardly a medical school in

America whose course of lectures exceeded from twelve to sixteen weeks. Many of them afforded scarcely any facilities to the student of medicine for acquiring a thorough medical education. Almost any illiterate, ignorant, or immoral young man, however destitute he might be of all the necessary qualifications to make a good physician, could easily gain access to some of these so-called medical schools, and after attending two partial courses of lectures he comes out a full-fledged doctor of medicine, to trifle with human life, and in hundreds, and even thousands, of instances during his long and unprofitable life, he becomes the murderer of his own friends and patrons.

The founders of this noble organization, were, many of them, the brightest stars of the medical profession in the United States. Great, learned, and good men—true philanthropists in the broadest sense of the term—and now behold the result of their glorious efforts, and the wonderful reformation that has taken place in American medical schools during the last twenty-five years.

In almost every State in the Union there are one or more medical schools whose professors are men of superior talent and moral worth, and will compare favorably with any of the medical faculties of the old world.

At the present day, a course of medical lectures extends to five months, in nearly all the American schools. The medical student now not only enjoys all the advantages of superior instruction; but nearly every school possesses ample facilities for dissection, large and valuable libraries, costly and magnificent anatomical museums, as well as large and commodious hospitals, with their hundreds and thousands of patients, who are afflicted with every variety of disease that can be conceived of, to all of which the student of to-day has free access. And no young man can avail himself of these innumerable advantages, unless he has gone through a very thorough course of study, under the instruction of some first-class physician. Must be a young man of the best of morals; must possess a good English education, to say the least, and he must have a certificate to this effect from his preceptor. And even this is only a partial

enumeration of the great benefits resulting from the united effort of the master minds of our noble profession. This bright constellation of intellects, composed as it is of delegates from almost every State in the Republic, meet annually and discuss the great medical questions of the age, and the vast improvements in medicine, surgery, and all their kindred branches. The proceedings of the Association, including nearly all the discussions of any value, are published in the various medical journals of the country, and by this means nearly every physician, from the Atlantic to the Pacific, from the Lakes to the Gulf, may keep himself thoroughly informed in reference to all the great improvements in his profession.

The success of this great enterprise, thus far, has surpassed the most sanguine anticipations of its most ardent friends.

Next in order are the medical organizations of the various States. Each bears the same relation to the American organization that each State does to the General Government, while every State Association is composed of delegates from the various county and city societies, each and every one contributing to the general good and prosperity of the State Association.

Our own beloved State of Illinois is not behind any other sister State in promoting the great interests of medical education, and in elevating the character, general intelligence, and dignity of its physicans. Have we not the Rush Medical School, as well as the Chicago Medical College? Can we not boast of the profound erudition and world-wide fame of a BRAINARD and DAVIS, who were the founders of these two splendid schools? And we may also feel proud of the St. Louis Medical School, at whose head stands a Pope, whose fame as a surgeon is not surpassed by any on this Continent. Show me a graduate of either one of these schools, and I will show you a splendid practitioner of medicine.

A few remarks now in reference to the Macon County Medical Society.—This Society was formed in 1853, by a few of the most enterprising and skilful physicians who then lived in Decatur. After having formed a constitution and by-laws, by which they were to be governed in all their business transac-

tions, they adopted a code of ethics, which was in substance the same as that adopted by the American Medical Association. This code of ethics is designed as a standard of fixed principles of right and justice in the profession, and the conduct of every true physician is regulated by it in all his business and social relations with his brethren in the profession.

The objects and aims of this association are to mutually improve its members in everything pertaining to medicine, as well as to promote harmony and brotherly feeling in the profession: both of which they are eminently calculated to produce.

From the first day of its organization, some one or more of its members have been required to read an original article on some subject connected with medicine or surgery. The merits and demerits of the paper are discussed and very thoroughly ventilated by the society, nearly all of its members taking an active part in the discussion of the article in all its bearings. To get up a paper of this character, that shall do credit to the author, and at the same time benefit his hearers, is a greater task than might be at first supposed.—No egregious blunders or false principles can be enunciated in the presence of this body of critics. As a natural consequence, a spirit of investigation is at once excited, not only in the mind of the writer, but in that of every member of the Society. Old and new books, as well as the various medical journals of the day, are reëxamined with extreme care to ascertain, if possible, everything that is known in reference to the disease under consideration, with all its symptoms, pathology, and treatment,—and I must say in all sincerity, and without the least intention of flattering any brother physician, that very many papers have been read in the Macon County Medical Society, that would reflect credit and honor to the medical profession.

The harmony and good feeling which have so long existed among your physicians in Decatur, are universally understood and commented upon by all classes of society, and this can be attributed in a very great measure to our frequent meetings.

I have now given you a hasty sketch of the objects and aims of these various Medical Associations. Every neighborhood,

hamlet, town, and city, throughout this broad land, are reaping the benefits resulting from the combined efforts of the medical profession in this great work. Is this not so? Are you not especially and very deeply interested in the character and qualifications of the physicians of this city and county? Most assuredly. Is it a matter of no importance into whose hands you place the life of your sweet babe, your lovely daughter, your noble boy, your beloved wife or husband, all that is nearest and dearest to you on earth? There is, in fact, no question of more vital importance to the interests and happiness of a family and their friends, than that of selecting a family physician. He should not only be a man thoroughly informed in all the various branches of his profession, should possess a discriminating mind, a sound judgment, but he should be a man of refinement and general intelligence, of the most irreproachable moral character; in a word, he should be like Cæsar's wife, above suspicion.

I am fully aware that many very intelligent persons upon all other subjects, exercise but little discretion and judgment in this very important matter.

If a young man comes to Decatur for the purpose of exercising his vocation as a teacher, what are the first steps he has to take before he can gain employment? Why, he has first to satisfy the county school commissioner that his moral character is unquestionable. Before he can teach our children the alphabet or the multiplication table, he must undergo a thorough examination in all the branches he proposes to teach.

But how is it frequently in the selection of a physician? One of these itinerant mountebanks comes to Decatur, his flaming handbills precede him for weeks. No one has any knowledge of who he is, or from whence he comes; and with his infamous misrepresentations and base falsehoods he imposes upon the credulity of the ignorant, as well as many intelligent persons. No one of his patrons takes the least trouble to ascertain anything in reference to his character as a man, or his qualifications as a physician, or whether he has ever been inside of a medical school, or whether he has the least authority

to practice medicine, except the license which is granted him by the city council.— Such men, ninety-nine times out of a hundred, are fit subjects for the penitentiary, and if they had their just deserts would be consigned to those comfortable quarters, pecking stone for their daily bread.

Professional brethren, I fear that we are not always true to ourselves. Have each and all of us carried out in good faith that sacred obligation which we entered into in reference to the prompt collection of our well-earned fees. I fear we have not. And why is it? Is it because physicians, as a class, can live cheaper, or, as a class, have no aspirations to live independently, and to enjoy the comforts and luxuries of life, equal to those who occupy the same position in society? No, my friends, those are not the reasons. The only true reason that can be assigned, on the face of the earth, for this dereliction of duty on the part of the Medical profession of this county, is sheer negligence; a species of carelessness; a miserable and intolerable habit of which we, as a class, are alone guilty.

In our intercourse and business transactions with all other men of this city and its surroundings, we find none of this cowardly and sycophantic manner exhibited in collecting their just dues, from all patrons, and consequently it is expected by the community at large, that no credit can be obtained of the mechanics, grocery men, dry goods, or clothing merchants. In fact, no class of men do a general credit business, except physicians.

Now is it not strange, gentlemen, that the medical profession of even our own town, do not possess sufficient firmness and decision of character to carry out a noble resolution, when the comfort, happiness, and prosperity of their families and themselves depend upon it. Look at the nerve exhibited by proprietors and clerks of business houses in Decatur, in refusing even their best customers credit, for a few days. They will say, no, we have quit that style of doing business. If you have not the money with you just now, we will ticket it to you, and drop it into the change drawer, and you can hand it to us the next

time you come in. And what is the consequence if this ticket is not cancelled in a few days? A younger clerk calls upon the debtor, and says, we would like to have that little bill, sir. And if it is not paid forthwith, a constable, in a few weeks at longest, taps you on the shoulder, and says, I have a summons for you. And if the amount is paid then to the sheriff, without any further trouble, does that individual, or any member of his family, get any more credit at that house? No, indeed, my friends. There is nothing wrong about this. It is all right, and you will unite with me in saying "amen" to this mode of doing business. And woe be unto Decatur and its bright future prospects, whenever that day comes that a general credit system is again established.

Now, on the contrary, what is the course pursued by our honorable body, as business men, in this respect? In the first place, we give our whole time and best energies of mind and body, both night and day, to our patrons, not even excepting the Holy Sabbath, that glorious day of rest, with all its joys and comforts, which brings repose to all other classes of men, and even to the brute creation, but comes not as a day of rest to the weary and care-worn physician. But on the contrary, with all the grave responsibility of very many precious lives entrusted to his skill, he moves on his endless and never ending round, visiting the sick and dying at all hours, always with a smile and a sympathetic word of encouragement, administering some God-given remedy, which cools the parched tongue of fever, and lulls the pain distracted body as by some magic spell. He is frequently exposed to the hottest summer's sun, or the rain in torrents, or to the frosty elements of cold and dismal wintry nights. After doing all of this, which is but a faint picture of the hardships experienced by every true physician, do our friends compensate us as promptly as they do other men who work for them? No, indeed, gentlemen. We return weary and fatigued over long and rough roads, through mud and sleet, at the hours of one, two, and three o'clock in the morning, broken of rest, to dream the remainder of the night of the beauties and glories of the medical profession, almost feeling

in our heart of hearts, that the messenger who had dragged us forth at the hour of midnight, from our comfortable beds, had conferred a great favor upon us. And we carry out this same idea by going to the office in the morning, and charging these hard-earned fees, with no expectation of collecting them for weeks, months, years, and perhaps never.—Now how is it with these same dearly beloved patrons; will they bring in a fatted calf, two or three fattened hogs, a load of bacon, apples, corn, wheat, or even their eggs, butter, chickens, or turkeys, or anything else they have to sell, and distribute them about town on credit, to even the wealthiest men? No, indeed! They must have money or its equivalent for *their* effects. One might suppose from this state of things that the health and life of a human being are of less value than a yard of calico, a hickory shirt, a pair of stoga boots, a basket of eggs not above suspicion, or a skim milk cheese—whose inhabitants are sometimes more numerous than the city of Decatur.

Now, does not this fault, in a great measure, lie at our own doors? Most certainly, gentlemen. And what is the result of this imbecility on our part?—Poverty, embarrassment, and almost bankruptcy to the medical profession. It is not for want of skill and energy in our profession. I will venture to assert, without fear of contradiction, (leaving your humble speaker out of the question) that there cannot be found in any other place the size of Decatur, in the United States, more intelligence, skill, talent, and true moral worth in the profession. And it has been so for many years, and has been so regarded, not only by the citizens of Decatur and its vicinity, but by the State at large.

It is a fact well known to each of you, that the delegates from Macon County Medical Society exercise more influence in the State Association than those from any other, except the Chicago Medical Society.

In the early settlement of this county a tooth could hardly be extracted, or a finger amputated, by the ablest physician living in this section of country.—How does this question stand to-day? Is it necessary for any one of our citizens to leave

home with all its endearments, to avail himself of the services of a POPE or a GROSS, in the hospitals of a strange city? Not by any means.—The most difficult operations in surgery, from the extirpation of a tumor, the amputation of limbs, the ligation of the deep-seated arteries, or the great operation of lithotomy can all be performed with as steady and firm a hand in this beautiful inland city, as in any other city in the Union.

Look at the appointments received by many of our physicians in the Union army. Every one of them receiving the place solicited, without a single rejection. Did one of them return home for want of skill, or on account of intemperance, or the want of ability on his part to discharge the duties of a physician and surgeon? No, my friends. Each returned home honored and respected alike by all.

Gentlemen, all that we ask is a fair remuneration for our services, as soon as practicable after services are rendered. This, I regret to say, has not been our good fortune in the past. Take, if you please, gentlemen, many of the physicians now living here, who have labored long and faithfully in this time-honored calling, for the people of this country, justly earning from forty to fifty thousand dollars during the last ten or fifteen years. And I ask you in the name of High Heaven what they have to show for it? This question I leave for you to answer. Now, my brothers, compare this state of things with the present condition of other men who came here about the same time, with but little capital, and engaged in other occupations, and what is the result? You find them building their brick and marble halls, living in fine residences, costly and elegantly furnished, their families not only enjoying all the necessaries and comforts, but all of the luxuries that wealth can purchase.

Now, we do not envy them in the enjoyment of all these things, but, on the contrary, rejoice that their efforts have been crowned with success, but believe it is high time that we, as a profession, should change our tactics, and may learn profitable lessons from those around us, in the successful prosecution of their various enterprises.

A reform should at once be established, and rigidly adhered

to, in the collection of our just dues. If this were so, we would experience a happy change in our circumstances. The physician who is worthy of the name, with all the vast responsibilities of his profession resting upon his shoulders, should never experience any pecuniary embarrassment. He should never be compelled to submit to that humiliating spectacle of making himself a public beggar on the corners of the street, soliciting the amount due him from his friends. Instead of this he should be able to devote his whole time and skill to the cause of suffering humanity.

Now, gentlemen, so far as I am individually concerned, my mind is fully made up on this important question, and it would afford me much pleasure to act in concert with you all in this laudable effort to collect our just earnings.

So far as charity practice is concerned, I am not only willing to do my share, but will do it with the greatest of pleasure.

Gentlemen, language is wholly inadequate to express my feelings of gratitude and love for the extreme kindness and forbearance which you have manifested towards me, since I have had the honor of presiding during the deliberations of this Association, for the past year.

When I commenced addressing you, I did not design saying so much on this subject, but it is one upon which I have felt very deeply and sadly, and if I have wearied your patience, I ask your pardon.

ARTICLE XV.

POISONING BY STRYCHNIA.—RECOVERY.

By JULIEN S. SHERMAN, M.D., Chicago.

The frequent fatal results of poisonous amounts of strychnia taken into the stomach, render the treatment of those which recover of considerable interest. The following case occurred on February 7th:—

Charles W., a resident of Chicago, *æt.* 23 years, of more than usual muscular development, desiring to "shuffle off this mortal coil," procured two grains of strychnia at 9 o'clock in the morning, and immediately deposited the same in his stomach. I was called to see him at 10 o'clock, and learned that he had suddenly fallen to the floor, complaining of inability to move his limbs, while his whole muscular system was in a state of tremor. The characteristic symptoms of poisoning from strychnia were now present. The spasms were frequent, and the rigidity of the cervical muscles marked. He complained of a sense of constriction in the fauces, and at times could only with difficulty swallow. The extremities were cool, and the mouth filled with frothy saliva. Pulse 115 to the minute; countenance extremely anxious.

An emetic of sulphate of zinc and ipecac. was immediately given and soon repeated, when free emesis was produced. A mixture of equal parts of tinct. cannabis indica and tinct. of camphor was given in drachm doses every 10 minutes; chloroform, by inhalation, was used for the first half-hour, when it was omitted, and the mixture alone given.

The convulsions, at first, were as frequent as once every 10 minutes, and similar to the action produced by an electric shock. At 11½ o'clock, they were greatly reduced in frequency, and the remedy was given at longer intervals. The symptoms soon became worse, and the dose was increased. They were again controlled, and gradually ceased entirely. By 11 o'clock at night, the patient was sleeping, and the next morning complained of extreme exhaustion, with general muscular soreness. Tonics and a nutritious diet soon completed his recovery.

During the 12 hours of treatment, nearly 4 ounces of the mixture was given, and yet none of the symptoms of intoxication from cannabis indica were developed.

ARTICLE XVI.

THE SOCIAL EVIL. EXTENT OF PROSTITUTION AND ITS CONSEQUENCES IN NEW YORK CITY. PROPOSED LEGAL MEASURES TO MITIGATE ITS EVILS.

The alarming prevalence of licentiousness, and the diseases resulting from it, in all the large cities of our country, is beginning to attract the serious attention of legislators as well as moralists. The subject is certainly one of the very highest importance, and cannot receive too careful a consideration by the medical profession. To aid in attracting attention, as well as in disseminating important facts, we copy entire the following report made by the medical members of the Metropolitan Board of Health of New York.

The facts presented will apply with full force to Chicago and almost every other large city in our country.—[ED.]

The Board of Health met at 3 o'clock yesterday.

The report of the Committee on Prostitution was called for. The following is a copy:

To the Metropolitan Board of Health:

The Sanitary Committee, to whom was referred the resolution offered in assembly by Mr. Jacobs, viz.:

"*Resolved*, That the Board of Metropolitan Police, and the Metropolitan Board of Health, be requested to furnish to the House, at their earliest convenience, their opinion as to the necessity and the probable result of legislation looking to the more thorough restriction of prostitution in New York," beg leave, respectfully, to report that their experience as physicians had rendered them familiar with the extent to which prostitution is carried, and with the diseases arising from the diseases which emanate from it. Private practice and attendance at the dispensaries and hospitals show that these diseases are far-spread, and are of the most deplorable character.

High and low, rich and poor, are affected by venereal diseases, and no class has a monopoly of virtue. If it were so,

the moral world before this would have exterminated the immoral. Prostitution has always existed in all large communities, and will continue to exist until the present order of society shall be changed, or until the golden age of virtue, which poets have foretold, and the wise and good anticipated, shall have come.

The actual and important fact is that venereal disease is sapping the strength of the people. Husbands give it to their wives and mothers give it to their children, and when it has once entered the constitution no one can tell whether it ever will or can be eradicated. Every part of the body is invaded, the skin, brain, eyes, throat, nose, lungs, and bones. The surface of the body becomes covered with sores, and with scars which endure forever afterwards. The blood itself is poisoned, and loses its red globules, which were intended to give vivacity to the brain and strength and vigor to the muscles. The poor victim of syphilis is racked with pains, permanently debilitated and incapable of hard work, and if his means are insufficient for his support must seek refuge in the hospitals or almshouses. Death is often his best friend, and if it comes early he may be saved from a lingering consumption, or some of the varied forms of scrofulous disease.

The picture is not overdrawn. The simple facts as first stated are common and beneath the truth, yet there are some persons who, from the superior excellence of their constitutions, or from using medicines early and sedulously, escapes the severe penalties of the disease. But no one can tell in advance who these favored individuals are to be, for, with all the external signs of flourishing health, there often exists some vice of constitution which syphilis will find out, develop, and render incurable.

Innocent wives get the disease from depraved husbands, and go through the same stages of suffering, broken health and premature decay. Their children are born dead or diseased, wrinkled, covered with eruptions, and, if alive, affected with a wheezing cough and catarrh. It would be a fortunate event if their lives could always terminate before they had grown to

mature age, and before they were old enough to generate a race of decrepid and feeble children, to become burthens to themselves and to society.

Syphilis is so invidious that a person attacked with it never knows with certainty that he is cured. A little of the poison left uneradicated may taint again his whole system.

Your committee have known repeated instances where young men who (having once had the disease and believing themselves well) have ventured to marry, have generated diseased children, and these children, *in utero*, have given the disease to their mothers. This, too, after a period of six or eight years had elapsed since the disease was contracted, during which time these young men had led virtuous lives.

Physical pain and the ruined health of wife and children, perhaps their death, or the loss forever of the hope of offspring may seem punishment enough. But to these must be added the consciousness of guilt. Their sins will rise from the buried past, and like reproving ghosts haunt their souls forever with remorse and shame. No imagined suffering can transcend misery like this.

No one knows what the young man is who proposes to marry his daughter. He may possess a good character and the noblest qualities, and yet this daughter may give birth to diseased children, and die of the diseases which prostitutes have generated and disseminated. These facts must bring the subject home to every individual, and all ought to resolve that such diseases shall not continue to exist, if, in God's good providence they can be eradicated. The question, moreover, is not a private one, but of great political importance, for the health of the citizen is the wealth and power of the state. The laboring population are ruined in health, and made dependent upon the public charities.

During the late rebellion, the soldiers of our army were at various times incapacitated from engaging in active military operations by the prevalence among them of venereal diseases.

It would have been a profitable study to collate statistics to show the extent to which these diseases prevail in the public

hospitals, dispensaries, and also in private practice. We have called for this information upon these establishments, but there has been so great delay that we cannot at the present time wait for full returns. Especially we regret that nothing of consequence has been obtained from the public institutions under the charge of the Commissioner of Public Charities and Corrections, for these are the chief resort for those afflicted with syphilitic complaints.

From Dr. Frank P. Foster, of the New York Dispensary, we have been favored with a full report. He states that the whole number treated for all complaints amounted in the year 1866 to 36,162. Of these 525 were of gonorrhœa, 11 gleet, 4 balanitis, 57 of gonorrhœal epididymitis, 467 of primary venereal sore (chancre and chancroid,) 52 of venereal bubo, 2 condyglomata, 1,033 constitutional syphilis, including 11 cases of congenital syphilis. Dr. Foster says that 22 had been registered as having diseases that were the result of venereal diseases; but it must be confessed that this statement conveys but a poor idea of the real state of the case; as first, most of the cases of these diseases have been registered simply as secondary syphilis; and second, of the 2,666 cases registered simply chronic rheumatism, and of the 135 registered as struma, it may reasonably be presumed that very many (perhaps nearly one-half) were of syphilitic origin.

In the Demilt Dispensary, Dr. Cummings has reported 176 cases of primary venereal disease, and 147 cases of constitutional veneral disease, making a total of 323.

From Randall's Island Nursery, Dr. Henry A. Whittlesey writes that "the patients treated are children between the ages of 10 and 12 years. We have, therefore, only hereditary syphilis under observation, generally modified and marked by previous treatment, rendering it impossible to give statistics of value. Of the diseases of the eyes, skin, bones, joints, etc., etc., that may be presumed to have depended upon hereditary syphilitic taint, there have been treated during the past two years 316 cases out of the whole number in 1865 of 1,741 patients, and in 1866 of 1,475 patients."

Of St. Luke's Hospital, Dr. A. A. Davis, resident physician, states "that no venereal cases as such are treated in this hospital; that the diseases, the result of previous venereal diseases, such as iritis, rheumatism, diseases of the skin, bones, and scrofula, etc., about 30 cases are treated annually. The whole number being 934 patients of all diseases annually treated."

Dr. F. Moffatt, physician to the Seaman's Retreat, writes that the whole number treated in the hospital in 1866 was 1,479; venereal diseases, 139; diseases the result of previous venereal infection, 192.

Dr. D. S. Teller, of Mount Senar Hospital, says the regulations of the hospital prohibit the admission of patients with venereal diseases unless they are able to pay for their treatment, except in cases of females, when the disease is communicated by the husband. The number of venereal diseases treated in 1864 was 16; in 1865, 18; in 1866, 22. The number of secondary diseases of a syphilitic character treated in 1864 was 12; in 1865, 12; in 1866, 26. The whole number of patients admitted in 1866 was 569.

From the annual report of the Commissioners of Emigration we find the whole number of patients to have been 5,672; the syphilitic cases, 515.

Dr. W. H. Thompson, who was engaged during the war in examining recruits for the army, replies that the presence of bubo scars on 8,700 men, were in the following percentage rates:

Of the whole number, 8,700, 8 per cent. were scarred; of recruits from the country, 1.05 per cent. were scarred; of 5,000 recruits from the city, 12.25 were scarred. The different nationalities stand in the matter thus: American, 6.75; Irish, 6.08; Germans, 9.08.

To supply the deficient information we have resorted to the published report of Dr. William W. Sanger, resident physician on Blackwell's Island in 1857, who reports as follows: Penitentiary hospital, Blackwell's Island, 2,090; almshouse, 52; workhouse, 56; penitentiary, 430; Bellevue hospital, New York, 768; Nursery hospital, Randall's Island, 734; New

York State Emigrant Refuge hospital, Ward's Island, 559; New York Hospital, Broadway, 405; New York dispensary, 1,580; Northern dispensary, 327; Eastern dispensary, 630; Demilt dispensary, 803; Northwestern dispensary, 304; Medical college, 207; King's County hospital, 311; Brooklyn City hospital, 186; Seaman s Retreat, 365. Total, 9,847 cases of venereal disease; and if we add to this an equal number for the cases attended in private practice, which (considering the multitude of such persons attended by the regular physicians and the advertising quacks) is probably less than the truth, we shall have 19,694 cases of venereal disease in the Metropolitan health district.

Mr. Kennedy, Superintendent of Police, thinks that about 15 per cent. of the men who present themselves for examination to serve as policemen are excluded on account of venereal diseases.

The fountain of these diseases must be sought for among the prostitutes; and from the report made, with great accuracy, by Mr. Kennedy, we find the houses of prostitution are 569; houses of assignation, 90. The whole number of prostitutes, that is, of women who pursue prostitution as a means of livelihood, and not including those who practice private debauchery, amounts to 2,574.

To speak of the prostitution and the diseases resulting from it, and especially to propose to treat these diseases and subject the wretched women who pursue this occupation to police and medical surveillance, in hopes of eradicating these diseases, is at first sight revolting, and has always met with opposition, even in those countries which ultimately have changed their views upon the subject. Many thoughtful and good men have in times past urged upon the authorities the necessity of this control; but no one can review the subject without wounding the sensibilities of many worthy persons, who believe that to undertake to treat prostitutes would be to give encouragement to vice.

Virtue is the result of natural disposition, or arises from education and early training, which makes the moral nature ele-

vated, conscientious, and religious, and not the outgrowth of the dangers incurred from debauchery.

Since the moral view is likely to be confounded at every step, it is proper to give to it thoughtful consideration.

If it were proposed to establish prostitution in a place where it had never existed there would be a united and emphatic protest against such a measure. But since prostitution has always existed in all large communities, and the whippings inflicted in times past upon the diseased of both sexes in entering and on leaving the hospitals, the denunciations of the church, the penalties imposed by the law, in addition to the dangers of disease and loss of character, have all been powerless to prevent it, what shall be done? Are we to allow the diseases thus generated to go on to destroy the people? If debauched people lead infamous lives, are we to say that they and their companions in vice are suffering the just penalty of their profligacy? that they have offended against the laws of God, and ought to be left to suffer from ruined health, and to give disease to the innocent? Censure, when carried to cruelty, cannot be attended by any good result. It may make the offender defiant, or fill him with despair, but it is not likely to lead to his reformation. Such stern views of duty cannot be held for any length of time; for most of the diseases which afflict mankind arise from some infringement of the law of God. When one is prompted to be harsh in his judgment of others let him reflect how slight a step in many instances exists between the evil thought and the real act, that the circumstances of time and place, early associations and teachings of a colder temperament, may have been the only restraints that have delayed and saved the tempted. Let him also reflect that if the Creator has affixed penalties to vices, He has in his wisdom and goodness furnished us with remedies to treat the diseases which follow from them, and if we are wise and thankful we shall not hesitate to use them. Physicians who are most familiar with diseases and their origin, and who have fixed and elevated views of the obligations of their profession, are not likely to allow the miserable to suffer if they have the means of relieving them,

and will not allow abstract questions of casualty to perplex their judgment or to lead them to inquire how the disease was contracted when the sufferer is appealing to them for help.

The municipal authorities have spent large sums for hospitals, and many thousands of dollars are employed annually for the treatment of venereal diseases, and as the population of the district grows so must the hospital accommodations be increased; whereas, if they had treated these diseases from their origin, and had endeavored to *prevent* them, the results would have been greater, and the pecuniary outlay very much less. They have acted as if they believed that public censure would attach to them if they treated prostitutes efficiently.

Some of the dispensaries and hospitals which receive large contributions to their funds from the State and cities, have proposed to charge those affected with syphilis a certain sum for medicines, or in some way make distinctions between them and the other patients. The managers, it would seem, relieve their minds by such conduct from all responsibility in the matter; as if a penalty or a fine would make that right which was immoral in itself; as if their narrow notions could impose rules of conduct on the physicians who would regard them as impertinent, and consequently to be disobeyed; as if the public had no interest in having contagious diseases cured, and would patiently continue their contributions to the support of these institutions, while both guilty and innocent were held up to ignominy, and the peace of families destroyed by the exposure of their illnesses, which such distinctions would cause.

It is time that we had made up our minds on this subject, and if it is immoral to treat prostitutes with venereal diseases, let us say so at once; let the miserable victims die, and never allude to the subject again. But if it is right to treat them, let us do so efficiently, and not suffer our minds to be swayed by the ever-recurring questions of conscience, which weaken the will and render the execution feeble. We ought to act in this matter with the good sense and resolution we would in any other business, and crush it out in its origin, as we did the cholera.

It is the duty of the Board of Health to take cognizance of everything that endangers the health or lives of the people, and in reply to the Legislature, who have called for information, to say that nothing imperils it more than the prevalence of venereal diseases among all classes. Private individuals may hesitate to volunteer their opinions, but a public body like the Board of Health can properly urge upon the Government of the State the necessity of enactments to give legal authority to measures which are demanded for the eradication of venereal diseases.

For this purpose we would suggest: First, That it shall be the duty of all hospitals and dispensaries in the metropolitan health district which receive pecuniary aid from the State, Cities, or Counties, to receive, treat, prescribe for, and dispense medicines to all persons afflicted with venereal diseases, on the same terms as persons afflicted with other diseases, without any exceptions, distinctions, or charges, founded on the nature of such diseases.

That all keepers of houses of prostitution and assignation shall be registered; so shall all prostitutes who live in these houses; that these registers shall contain their names, ages, nativities, and whether married or not.

These registers shall *not* be open to public inspection. The owners of all houses of prostitution shall be also registered.

In case any woman shall gain admission into a house of prostitution, the fact is to be announced to the public, and the police shall not allow such woman to remain in such house unless she is a registered prostitute.

That the Metropolitan Board of Health shall establish a hospital for prostitutes affected with venereal diseases, and shall appoint physicians for the same, the custody of such hospital to devolve upon the police.

That the Board of Health shall cause to be inspected the houses and persons of all prostitutes, and if any prostitute is found diseased with any venereal affection, shall send her immediately to the hospital.

To carry out these measures, and to provide the means for

the support of the hospital, also to establish regulations which shall enable the police to compel obedience in case of resistance, must be left to the wisdom of the Legislature.

By subjecting the owners of houses of prostitution to registration, it is believed that it would compel the owners of houses to have regard for the character of their tenants, and prevent the sub-letting of them for infamous purposes. The publicity given to their names would prevent many from renting these houses who now do so with an eye to profit, because it can be done secretly. Registration would also enable the police to close many houses of assignation, which are the schools in which young women begin a career which ends in prostitution. It would prevent, in great measure, the meeting of married women in these houses, for they would fear the watchfulness of the police, and dread the public exposure which might follow.

By inscribing upon the registers the names of the keepers of houses of prostitution, and of the prostitutes, it is probable that their dependence upon the police would be felt by them, and that they would be induced to behave decently without public scandal.

The fear of a long detention in the hospital will compel them to confess their maladies early, and thus not continue their vocation until obliged by aggravated disease to stop.

Thieves and all sorts of malefactors constantly resort to houses of prostitution, and the women there are often thieves themselves. The registration and supervision of them will tend to make them behave honestly and deter them from robbing those who visit them. Being personally known to the police, they can be held responsible for their conduct. Drunken men, and young men just escaped from boyhood, are often found infatuated enough to squander their hard-earned wages of their estates upon these women. The increased facility of detection would serve to prevent these crimes.

Registration will enable parents to trace their children, and in some instances to reclaim them, or in case property is at stake it will enable those concerned to know whether they are living or dead.

The books which contain the names of the registered housekeepers and prostitutes should never be open for public inspection, because the peace of many respectable families would be destroyed by the secret contained in them.

By obliging the housekeepers to report the women who demand admission to their houses, it is believed that the debauching of young girls, often mere children, will be prevented. The police could take charge of them, and also of those women who, having recently fallen from virtue, and who are not utterly ruined, in despair rush to these houses, to embrace the life of a prostitute. The police could arrest them in their career, give them time to reflect, and the Moral Reform society and their kindred institutions could interpose their good offices, restore them to their families, or by gentle words, friendly counsel and protecting care, raise their hopes and lead them to a better life.

The greater freedom from disease, caused by the early medical care given to the prostitutes, might lead the depraved to prefer them to all other women. It may be so, but it would have this good effect, to lessen the demand for those women who frequent the houses of assignation to practise debauchery secretly.

It will be perceived that we have chiefly recommended our measures which seem to be best calculated to eradicate the venereal diseases. These are:

1st—To oblige all hospitals and dispensaries which receive pecuniary aid from the public to treat venereal diseases.

2d—Registration of prostitutes, etc.

3d—Hospitals for prostitutes.

4th—The sanitary inspection of prostitutes.

These, or something suitable as these, must be at the foundation of the proposed reform. The remarks made are intended to be explanatory of their effects. We know that we have not covered the whole subject of control or medical supervision. This must be the work of the legislature. Much must be left to persuasion and to the influence of public sentiment, which we believe is earnest in its demand that prostitution shall be restricted and controlled.

WILLARD PARKER, M.D.,
JOHN O. STONE, M.D.,
JAMES CRANE, M.D.,
} *Sanitary Committee.*

SUPERINTENDENT KENNEDY'S REPORT.

From the reports of the various police captains, made to the superintendent on the 27th of January, the facts relating to prostitution in this city appear as follows:

	1867.	1866.
Houses of prostitution	560	621
Houses of assignation	90	99
Saloons with waiter girls	38	83
Number of public prostitutes	2,574	2,690
Number of waiter girls	336	747

In Brooklyn, there are but six public houses of prostitution, and three of assignation; only fourteen public prostitutes. The difference between New York and Brooklyn is not to be accounted for in the superior virtue of the latter city, but rather in its contiguity to New York, which allows its debauchees to riot here, while their city home is apparently unpolluted.

It will be seen that within the past year there has been a decrease in the number of prostitutes, etc.; but it will tax the credulity of many persons to believe that the figures, as given above, are correct, and still more, perhaps, to hear that in the Eleventh Precinct, which contains 90,000 people, there is not a house of prostitution reported.

Before the war, in January, 1861, there were about 2,100 prostitutes in the city. In January, 1863, there were only 1,600 to 1,700. This diminution was caused by the number of professional prostitutes who followed the army to the war. When the war closed, in 1865, these came back with their numbers considerably reinforced, swelling the figures, as reported in 1866, to 2,690.

Correspondence.

ONIONS IN INTERMITTENT FEVER.

LOUISVILLE, K'y., *Feb. 14, 1867.*

DR. N. S. DAVIS:—

Dear Sir:—My attention has been called to a simple, and supposed effectual, remedy for arresting the chills of miasmatic origin. I was consulted, last summer, by Mr. H., for chills; he had had them for several weeks. I gave him a prescription, which soon controlled the disease for a short time; after which the chills returned at regular intervals. He being averse to taking medicine, wished to try a simple remedy before taking any more from me. When he felt the chill coming on, he went to his room, undressed, sliced a large onion, rubbed his chest with the pieces, and then went to bed, covered up warm, and was soon in a perspiration, having no chill nor fever. He repeated the operation as often as he felt the chill approaching, and it checked the paroxysm every time, and removed them entirely after the third application. I gave the subject but little attention, thinking it was a spontaneous cure.

Yesterday, my attention was again called to the subject, by a gentleman of undoubted veracity. He informs me that he has broken up the chills on two of his children. One case had resisted all the treatment given by a physician, after which the onions were tried. They were beaten to a pulp and bound on the wrists and soles of the feet, one hour before the time of the expected chill. In one case, the chills never returned after the first application; in the other, it returned in fourteen days, when the onion was again applied; since then, the chill has not returned. He also informed me that he had tried the onion in seven other cases, with the same result.

It seems to me that this is a subject worthy of investigation, simple though it be. Here are ten corroborative cases, the paroxysm in each having been arrested in the cold stage, and the periodicity broken up in all. It will be seen that the mode

of application was different: in my case, the juice was applied to the chest; in the others, the onion was applied to the extremities, yet the result was the same. It is hardly probable that the onion would be applied in all the ten cases at that time when nature was about to free the system of the offending difficulty, independent of remedial agents. If not, then the onion is the cheapest and best antiperiodic of the materia medica.

I have called your attention to this subject, not knowing whether it has been investigated by the profession, or not. I have used the onion for the last seven years, in the early stages of infantile pneumonia, with the happiest effects. I was called to see a child last night. I found it breathing short and laborious; uneasy and restless; crying or groaning at every breath; with a hacking cough. In auscultating, I found a crepitus over a portion of the right lung. I had onions pounded fine, and covered the right side of the chest with them. They were quieting and soothing, and the child was asleep in half an hour, and breathing comparatively easy. This morning the child is doing well. I do not know where I got the suggestion for the use of the onion in these cases, except from some of your lectures.

I hope you will pardon me for encroaching upon your time, to ask you to read a letter on what may be to you a familiar and exploded subject. Yet, I am sure that I have never tried any remedy, in the early stages of pneumonia of children, that has given me as good and immediate results as the onion. Hoping that the onion may prove to be as effectual in intermittents as its advocates claim, I remain, Yours, truly,

A. GIVEN.

Reopening of the Knoxville, Tenn., Deaf and Dumb Asylum.—The Knoxville (Tenn.) Asylum for the Deaf and Dumb has been reopened after a five years' suspension. It was occupied during the late war as a hospital by both contending forces in succession. As the "Asylum U. S. General Hospital No. 1," it achieved no little reputation during the campaign in East Tennessee.

Selections.

ON RETROGRESSIVE MOTIONS IN BIRDS PRODUCED BY THE APPLICATION OF COLD TO THE CERVICAL SPINE, WITH REMARKS ON THE USE OF THAT AGENT AS AN AID IN PHYSIOLOGICAL INVESTIGATIONS.

By S. WEIR MITCHELL, M.D.

At long intervals during several years, I have made use of various degrees of cold as a means of research in experiments upon the nervous system, and, especially, its central ganglia.

Until recently I have been unable to control it, so as to secure from its employment all the advantages which at one time I was led to look for.

Of late, however, the interesting and valuable method of causing local anæsthesia by cold, invented by Dr. B. W. Richardson, of London, has enabled me so to improve upon the plans which I formerly followed, so as to lead, in one direction, at least, to results of the utmost interest, and I believe of entire novelty.

Were my time completely at my own disposal, I should have preferred to wait until I had developed and explained these results more perfectly to my satisfaction. Unfortunately I should have been obliged in this case to await the return of another summer, and I have therefore thought best to lay before my fellow-workers, in this branch of science, the conclusions already attained; trusting to them and to my own future labors to complete what I have in part effected.

Various methods have been made use of to study functions by injuring or destroying the organs to whose integrity they have been supposed to owe their existence. For this purpose mutilation or ablation has been employed. In other cases poisons has been given to abolish for a time the action of those portions of the centres or nerves upon which certain drugs have been thought to exert an influence. This latter mode is even more uncertain than the one about to be proposed, and has besides obvious inconveniences upon which it is hardly necessary to dwell.

During the spring and summer of 1863, Dr. Morehouse and I engaged in a prolonged research on the cerebro-spinal fluid, and the influence of pressure in producing convulsions. In the

course of these experiments the following observations were made. As I was led by them to engage in the experiments which are the subject of the present paper, I think it best to copy them at length from my note books. I am the more willing to do so, since they possess an interest in themselves, and are, I believe, rather novel in character.

Experiment 1.—June 6th. Large rabbit cut down in middle line, and made a minute opening through the membrane which fills up the occipito-atloid space.

A tube twelve inches long, and two millimetres wide, open at both ends, was drawn to a point at one extremity, and expanded funnel like at the other. The lips of the small end were rounded carefully and made to flare outwards a little. This extremity was then slipped through the hole in the membrane which it accurately closed, when drawn gently outwards, so as to bring the flange of the tube against the inside lip of the opening. The tube was then held upright, and water temperature 66° F. was poured into its upper end. It was possible in this manner to pour into the tube, and through it, into the spinal canal, at least *half an ounce* of fluid. At a certain point, usually when there was a pressure of ten inches in the tube, convulsions ensued and checked the experiment.

The injectment thus made, displaced the blood in the spinal vessels, and caused bleeding from any exposed veins of the cord or head. Died next day. Medulla oblongata softened.

Expt. 2. In two rabbits we repeated this observation, injecting water at 100° F., when the largest amount was borne before general convulsions took place.

Water at 120° F. Less pressure was borne and convulsions came sooner. When water at 32° F. was employed we found that the spasms followed almost instantly upon the introduction of the first few drops of fluid.

The convulsions which ensued were very remarkable. The animal rolled, turned, leaped, shivered, and in fact exhibited every variety of convulsive action in remarkable perfection. This effect seemed to be due to the direct influence of cold on the medulla oblongata, since like effects were produced when a morsel of ice was laid gently upon that organ, or when it was exposed and iced water was dropped upon it.

This very striking experiment led me at a subsequent time to test the possibility of suppressing the functions of central ganglia by the use of cold.

It is scarcely necessary to do more than allude to the attempts which I have made to effect this end. At intervals

during the summers of 1863 and 1864, I made many applications of ice and ice and salt in bags, to the spines and brains of rabbits, Guinea-pigs, and kittens. Nearly all of these experiments failed to give striking results. In some cases, as where I tried to freeze the part without removing the overlying tissue, no marked phenomea ensued. In others, where I placed the freezing mixture on the bony spine itself, or on the head, feebleness alone was produced. In no instance did I make use of birds until the spring of 1866, from which time my present experiments date.

At the period last referred to, it occurred to me to try whether Dr. Richardson's application of the atomizer to local anæsthesia might not enable me to effect the purpose in which I had previously failed. I also reflected that birds might answer better than quadrupeds, on account of the thinness of their skulls, and the comparative isolatson of some of the central organs—such as the cerebellum, and the optic tubercles. On the other hand, birds offered an embarrassment in the high temperature which their bodies present, and which, of course, makes it difficult to freeze any portion very deeply. The heat of the pigeon, for example, is frequently nine degrees above that of man.

Notwithstanding this drawback, the change in the animal used, and the employment of Richardson's method enabled me for the first time to get satisfactory results. Among the most striking were those which I obtained while attempting to freeze the necks and heads of pigeons, and it is these which I propose here to relate at length.

The method in this research was much the same in every case, and will exact very little description; Richardson's atomizer was necessary when ether was used. In general, however, rhigolene was employed with the aid of a cross jet of air—such as is made use of in atomizing water. This is mentioned particularly because the form of apparatus which is best for ether does not answer so well with rhigolene.

In some instances the atomized fluid was thrown upon the skin, in others on the bony case of the nerve-centres, and more rarely on the nerve substance previously laid bare, or merely guarded by a thin patch of caoutchouc. The animals employed were pigeons, chickens, rabbits, cats, and frogs.

Expt. 3.—June 29th, 1866. I threw a jet of rhigolene upon the back of a pigeon's head. The time not stated in my notes. He shivered towards close of freezing. When released he walked away, shook himself, cleaned his feathers and bill, etc.

In one minute he began to move backwards suddenly, as if by his own will. Before each motion of this kind he squatted close to the floor, and as he began to move, threw his tail up and his head down, and to one side. The series of motions had the appearance of a spasm. In the intervals he sought a corner, and sank into a stupid condition, or else walked about as usual until either a backward motion overtook him or he fell anew into stupor. From this he was easily aroused, and was then to appearance in full possession of all his faculties. The backward movements at length became visible only as sudden checks which overtook the pigeon now and then while walking forwards.

This experiment offered certain novel and curious facts. The delay before any noteworthy phenomena were seen, the sudden onset of a strange form of convulsive movement, the state of partial stupor apt to follow, and finally the healthy appearance of the animal in the interval, reminded me of the symptoms of certain epileptic cases, and made me hasten to repeat the observation.

Expt 4. Same pigeon frozen two minutes a little lower down, so as to more exactly influence the cerebellum. Released he walked away, well and strong, pluming himself, and picking his breast, a common motion. Within twenty seconds the first backward motion took place; at the same time an increasing difficulty of movement overtook him. He walked as if drunk, lifting his legs very high, in a curious fashion. Five minutes from the freezing he still had frequent backward motions, which gradually lessened. At the tenth minute he began to exhibit the attacks of stupor.

Expt. 5. Used rhigolene over the cerebellum of a young pigeon for about four minutes. Released, he could not stand, but rocked to and fro, and threw himself from side to side with general movement of all the muscles, but no orderly execution of any series of movements. Second minute, ran forward naturally for the first time; tried to fly through the window, and uttered the cry common to young pigeons. At the third minute he began to turn somersaults backwards, and did so for half a minute, when he stopped a moment, and again continued to turn over backwards. Then came a period of stupor, broken at the fifth minute by continuous backward turns. He still cried at intervals, and the somersaults gave place to backward movements which were very rare, when at the ninth minute I ceased to observe the bird. Three days later the pigeon was perfectly well, except that he had a small slough over the most prominent point at the back of the skull.

Up to this time I had seen nothing very novel, excepting the temporary creation of spasms, such as in some shape were known to occur when the cerebellum was mechanically injured. The following experiment opened a newer field:—

Expt. 6. A pigeon whose cerebellum had been previously frozen many times was chilled on both sides of *the neck* during one minute by a double jet of rhigolene, at the level of the tenth cervical vertebra, just above the junction of the neck of the body. When released, he became at once the sport of violent general convulsions. They were very complete, and offered no other striking character for a few moments; then there were occasional backward somersaults, or an effort in this direction. At the second minute the backward walking motion began to be seen, as the general spasms and the somersaults ceased. The stupors also appeared, and alternated with the runnings backward until within an hour the animal gradually recovered its usual health.

If the results above noted had followed the chilling of the cerebellum only, I should have been little surprised; but nothing in our previous knowledge of physiology led me to look for general convulsions or backward spasms from injury to the spine below the medulla oblongata. After witnessing this remarkable result I repeated the experiment again and again upon a number of pigeons, with precisely the same results, sometimes obtaining backward somersaults, and at others only retrograde movements, alternating with periods of stupor and intervals of apparently full control of all the normal movements.

At another part of this essay I shall describe more minutely the character of these abnormal motions. At present, I pass on to consider the limits of the region which, being chilled, will give rise to them. I began at the cerebrum and made the following experiments, which I briefly state:—

Expt. 7. Pigeon previously frozen several times, but now perfectly well. Rhigolene spray on skull over cerebrum for four minutes, guarding the cerebellum with a card, and also preventing, in a similar way, all inhalations of the vapor, a precaution which was taken whenever the freezing was near to the head. Released at 6.44½. His head rolled about a little. His general movements were uncertain, and he walked away, seeking a corner. One and a-half minutes. Continuous backward somersaults, with short intervals of rest and stupor. Sixth minute. Same phenomena. Observation ceased.

Expt. 8. Rhigolene on cerebral region three minutes. Pigeon in a state of profound sleep or stupor. Third minute after

freezing head falls, eyes closed, weak, falls sideways, but soon tries to walk, and seeks a corner. Fourth minute, stupor, roused by falling over. Occasional spells of like nature, but less marked, and further apart. No backward movements at any time.

Expt. 9. Exposed cerebral lobes of pigeon; no bleeding; drew skin together over the brain, and threw rhigolene jet on it for one minute, freezing it as hard as ice. Set free, he flew straight up into the air one or two feet, again and again for three minutes; then had spells of vehement forward movement, during which he stumbled, with his neck bent forward, eyes shut, not directing his steps, and running against any obstacle put in his way. In four minutes he became more conscious, tried to fly out of window, and suddenly fell into stupor, from which a push aroused him. Eighth minute. Backward walking spasms for eight or ten steps at a time, varied with stupor. Nearly well at twelfth minute.

Expt. 10. After an hour froze the exposed cerebrum of same pigeon one and three-quarter minutes. Asleep; awakened somewhat in ten seconds, and had slight general convulsions. First minute, intense forward flexion of neck. Attempting to move forward he falls on his side; alternate sudden forward rushing motions and backward walkings, the latter predominating. Fifth minute. Backward motions only, but well marked. Recovery at seventh minute.

In these and similar experiments I sometimes succeeded in abolishing for a few moments the cerebral functions, and causing deep sleep. In one case the freezing went so deep as to influence the region of the copora striata, occasioning the violent forward movements which Magendie originated by ablating these parts.

Besides these phenomena, backward motions were sometimes observed, but they were never so violent as when the cerebellum or spine was directly attacked.

Since it is practically very difficult to limit the freezing so as to be sure when you freeze the cerebrum that you do not also chill the cerebellum. I am inclined to suppose that the backward motions which occur when we are acting on the former organ may really be due to an affection of the latter; at all events, it is well to remember that in the experiments here related, and in other like attempts to freeze the cerebrum, I have but once seen the backward somersaults, which are the most remarkable exhibitions of this form of compulsory activity. There is, therefore, some reason to suppose that the cerebrum is not the centre from which proceed these singular impulses.

It was next desirable to know what parts of the spinal column, upon being frozen or chilled, may give occasion to the phenomena in question.

I began by throwing rhigolene upon the skin over the medulla oblongata. The principal symptoms were great weakness, with confused movements of the wings and legs, feeble and laborious breathing, and, after a few minutes, backward walking, with rare attacks of stupor. As the part lay deep, it was difficult to avoid chilling the cerebellum. The following experiment may serve as a type of the larger number, which it is needless to report:—

Expt. 11. Rhigolene on skin over medulla oblongata for two minutes, the skin being drawn tightly over the spine, and the head bent forward. Released, very weak, tendency to fall to left side, shivering, feathers ruffled; on walking forward tends to fall on his bill. Third minute. Begins to show backward motions. Fourth minute. Repeated backward movements. Seventh minute. Increased feebleness, backward spells, gradual recovery, with rare fits of stupor.

In the next experiment I laid bare the bony spine just below the medulla oblongata, and threw on it a jet rhigolene, during three minutes. Released, lies on one side, breathing feebly, unable to move, pupils sensitive, reflex motions in both legs on pinching one of them. Second minute. Put on his feet, rocks to and fro, breathing more labored; gradual improvement with fits of deep stupor. Twelfth minute. Backward movements alternately with stupors; slow recovery.

Expt. 12. Rhigolene on neck, half an inch below medulla oblongata at third or fourth cervical vertebra three minutes. Backward spells at third minute, with incessant somersaults; previously ran about as if well; stupor; tried to enter his cage. Plumed himself. Fifth minute. Somersaults ceased, and are replaced by backward walking, varied with stupors. Recovered.

Expt. 13. The skin in this pigeon was drawn tightly over the spine, and a double jet of rhigolene thrown on the tenth vertebra for two and a-half minutes. Released, he ran about, apparently well. Twenty-fifth second. Marked backward spells, which were incessant until the fourth minute, when he had stupor, followed by confused general convulsions and backward walking. Fifth minute. Backward somersaults, etc. Recovery.

The spine was next acted on at the third cervical vertebra, with the same phenomena. In a second experiment at this same point a double jet was used. The feebleness and disorder

of respiration were more marked, the stupors and movements were as before. Recovery perfect in both cases.

The next experiments were made at points between the middle neck and the first fixed vertebra, which itself lies a little back of the upper line of the scapula. In every case I obtained the usual series of backward movements, stupors, and intervals of perfect control. I find that no somersaults are noted in connection with these records, but as they occurred when the spine was chilled below this point, the exception becomes unimportant.

The upper interscapular line is marked by a prominent vertebra, just below which lies the first fixed portion of the spine. In a well-grown pigeon it is at least three and a-half inches below the lower level of the skull. Beneath this point the backward spells can no longer be obtained by any extent or depth of freezing.

The following notes relate one out of many experiments in which the jets of rhigolene were thrown exactly between the shoulders:

Expt. 14. Rhigolene jet four minutes on first fixed vertebra, at upper level of interscapular space. Released, he ran about, and in fifteen or twenty seconds sank down, shivered, and ran backwards repeatedly; during the quiet intervals he attacked another pigeon. He was next seized with stupor, then another series of backward spells, and again stupor, after which he once more assaulted the other pigeon. Recovered.

In other experiments I guarded the spine with my fingers above and below the frozen part, but still obtained, in nearly every case, the retrograted motions and the stupors.

Expt. 15. Froze skin with rhigolene jet one-half inch below prominent interscapular vertebra, at level of second dorsal vertebra, for four minutes. Released he walked away briskly; in half a-minute crouched, showed signs of weakness; has spells of stupor, which come on gradually, so that if he is on a perch he falls off, and is aroused by falling; well in the intervals, except that he seems weaker than common. Observed one hour, when he was well, having no longer any backward spells.

Expt. 16. Rhigolene jet four minutes on spine, half inch below first fixed vertebra. Ran about as usual; appeared agitated and restless, and weak in his legs; no backward spasms, no notable stupor.

Expt. 17. I next threw rhigolene jet on the spine, one inch above the line of the great trochanters of the femur, a point easily found. It is at the upper level of the sacrum. Froze

during four minutes. Released, he ran about clumsily, tripping, intertangling his legs as he moved, and using his wings to aid progression. The movements were so futile and irregular that they presented much the same appearance as when the cerebellum has been frozen deeply or removed by the knife; no stupor, but occasional tendency to rest quiet in a corner; no backward impulsion. Recovery.

Expt. 18. Rhigolene jet thrown for four minutes on spine, *half* an inch above line of trochanters. Clumsy motions, great feebleness of limbs, walks crouching, now and then falling on his side. One and a-half minutes. Sank to rest in a corner, shivering; tremor of legs, especially the left leg; no backward motions or stupors. Recovered.

Expt. 19. Rhigolene jet on spine four minutes, at the last dorsal and first lumber vertebra, over the place at which the nerves of the legs make exit. Sudden and violent tetanic spasms of both legs and the tail, during which he fluttered about with the aid of his wings. At the third minute the spasm relaxed, and in four and a-half minutes he could walk; he remained feeble for a time, but in an hour was as well as usual.

It results from these experiments and others that at or about the fourteenth vertebra counting from above downwards, we cease to notice the backward spasms and stupors, and see only signs of weakness or of tetanic rigidity in the legs; usually these phenomena come on some time after the freezing, and reach a maximum within ten minutes.

It appears thus far that in pigeons the application of cold to the cervical spine occasions, after a brief period, peculiar backward movements, resembling those which have been previously produced by mechanical injury of the cerebellum. These abnormal actions are, in extreme cases, backward somersaults, followed by spells of backward walking, and accompanied with spasmodic movements of the head, to be fully described hereafter. In milder cases only the backward walking occurs. Both of these forms of constrained movement are met with when the cerebellum has been chilled. A further series of experiments determined that it is immaterial whether the spine be acted on behind, at the side, or in front. In fact, this organ in the pigeon is so small in diameter, and the freezing so difficult to limit, that we might naturally look for the spasms to follow an application of cold to any side of the spine.

It is indifferent whether we freeze through the skin drawn tightly over the bone, or act on the bare nerve-tissue itself.

The following is an example of the latter mode of affecting the nerve-centres:

Expt. 20. Exposed spinal cord of pigeon at fifth cervical vertebra, without hemorrhage of any moment, covered it with a small piece of glazed paper, and threw on this pulverized rhigolene jet for twenty seconds. Released, the bird lay twenty-five seconds breathing heavily, as if about to die, and was then suddenly seized with violent backward somersaults, which were continuous during one minute. They were followed by and finally alternated with fits of stupor, the whole ending in backward walkings. Recovery.

I was now interested to know whether the same results could be obtained by chilling the spine of other birds. For this purpose I selected the chicken, making the following very remarkable observations:

Expt. 21. Exposed bony spine of a large chicken-cock, and for five minutes threw jet of rhigolene upon it, at a point about three inches below occiput. Released, he walked away without any signs of stupor or sickness. In a minute he stood still, looking about him as if confused. At the second minute he began to move backwards, rotating to the left, with long, slow, and strangely deliberate steps. The rotation seemed to be due to a feebleness of the left leg. He moved in a circle of about two feet in diameter, and now and then leaped up in the air abruptly. His head was not thrown down as was always the case in pigeons, and the action had none of the appearance of spasm which it presented in that bird. After five minutes continuance of this most extraordinary motion, his steps became more awkward and irregular, as well as more rapid and spasmodic, but he now ceased to move in a circle.

At the seventh minute came the first pause, and his attacks were henceforward separated by intervals, during which he walked as usual. As the spasm came on, he slowly stooped, drooping his tail feathers, and raising his head. He seemed to have difficulty in extending his toes, which doubled under him as he stepped, and increased the awkwardness of his gait. After twenty minutes his spasms ceased.

Repetitions of this experiment gave like results, and in one case the backward movements were produced by the application of the rhigolene jet during only thirty seconds.

I have totally failed to produce these curious fits in the rabbit, the only mammal upon which I have as yet experimented.

The following analysis of observations on rabbits exhibits my results in this direction:

Expt. 22. Froze the bared occiput of young rabbit two and a-quarter minutes. The only symptoms were feebleness, and signs of pain, such as squealing, etc.

Expt. 23. Froze same point four and a-half minutes. Fell on side; kicked a good deal; apparent temporary want of power to coördinate his muscles; walked freely after a few minutes.

Expt. 24. Froze rabbit on spine five and a-half minutes, an inch below occiput. Released, he lay kicking violently half a minute, then rose to his feet, and fell, kicking again. Finally, he rose and fell several times without kicking, and, at length, was able to walk freely. Recovered in half an hour.

In all the other cases, four in number, I observed disordered movements, and, at the close, great weakness only.

The failure to produce in rabbits the results so readily obtained in birds appeared to indicate some previously unsuspected differences in the nervous systems of these two classes of animals, and made me desirous to see whether I should succeed any better with cold-blooded batrachians. I therefore made a number of experiments upon frogs, but without the satisfactory results I had hoped for. When the rhigolene jet is thrown upon the region of the brain, the functions of this organ are abolished for a time, and the frog exhibits the phenomena which are common to this animal when decapitated. A jet cast on the spine occasions spasmodic movements of the legs, and, at intervals, violent tetanic contractions. After a few minutes the frog is able to crawl, but does not recover the power to leap, its usual mode of locomotion, until a longer time has elapsed. Recovery is always perfect, and there are no backward movements.

When the jet is thrown on the back of the prominent eyeball, the posterior tissues of the eye are frozen without the cornea having become dim, and in this case very perfect temporary cataract is produced.

The real seat of the backward impulses in birds would seem to be at any point from the lowest cervical vertebra up to the cerebrum, whose power to originate them is at the least doubtful. Two facts, or sets of facts, led me to think it possible that it was in every case the cerebellum or the medulla oblongata, which was the organ finally responsible for the production of the spasms of retrograde motion, which we have been considering.

The first of these facts is the well-known and valuable discovery of Brown-Séquard, that in Guinea-pigs mechanical in-

jury of certain regions of the spinal cord, from the seventh dorsal to the third lumbar vertebra, subjected the animal to fits of an epileptiform nature, which might be induced by various means, or might arise spontaneously. Moreover, these spasms began about the face, so that the spinal wound (partial section) must have produced an over-excitable condition of the nerve-centres above the point of injury.

In my pigeons, likewise, the spasms began with a flexing of the neck, etc., so that it is altogether possible that in these animals also the spinal irritation may act by causing an undue excitability of organs within the skull.

Before continuing, it may be as well to state that I do not recognize any other relation than I have here pointed out between Dr. Brown-Séquard's very brilliant discovery, and that which I am now setting forth. The fits he caused came on after some weeks had elapsed; they were seen in Guinea-pigs; they were due to mechanical injury to the dorsal or lumbar spine only, and were finally epileptiform, in all of which respects they differed from the novel facts I have observed.

The second set of facts, above alluded to, has also made me hesitate in assigning to the point of the spine injured by cold, the entire responsibility of producing the retrograde spasms.

Magendie pointed out what many other physiologists have since seen, that certain deep injuries of the cerebellum, especially in birds, gave rise to backward somersaults and movements, which were very violent, and were sometimes continuous for days, or were interrupted only for a few moments, when exhaustion was complete.

The spasms caused by cold applied to the spine were also of this retrograde nature, and I was therefore furnished with an additional motive for suspecting that they might really be due to a reflex affection of the cerebellum.

To determine the relation between backward spasms originating in mechanical injury of the cerebellum, and those due to chilling of the spine, I made a large number of experiments and observations. And first, it is to be observed, that when we chill the cerebellum, we cause convulsive movements which cannot be distinguished from those which occur when we chill the cervical spine. Either the whole of these fits then are referable to one single organ, the cerebellum, or else there is in the pigeon an extensive region, at least four inches long, and stretching from the cerebral mass to the first dorsal vertebra, any portion or section of which is capable of developing the retrograde convulsive motions when treated as I have described.

Backward somersaults and enforced backward walking from mechanical injury to the cerebellum, differ very remarkably from those produced by cold. The wound of the cerebellum must be deep to give the proper effect. The result is violent tumbling backwards, or sideways and back, with little or no respite, and certainly with no intervals of healthy activity. The spasms from cold, though often as violent, do not endure so long. They end in backward walking, and this in perfect health. I have caused them by the application of cold to the spine twenty times in one pigeon, within a few days, and still he not only survived, but ate, drank, and moved with usual vigor. Besides this, the spasms from cold alternate with attacks of stupor, in which the head falls, the eyes are shut or open, and the pigeon seems to be in a kind of lethargy. When in this state it may often be handled, or laid on its back or side, without an effort at resistance, while at any moment a loud sound or sudden motion will break the spell, and it will abruptly run backwards several feet. It was very remarkable to observe the mode in which the stupor came on. If the pigeon was on a perch or window-ledge, its head gradually fell, the body swayed backwards, and at last the feet unclasped, and the bird fell on the floor.

In the chicken the stupor was sometimes so deep that it could be held passively suspended by one foot or a wing.

The intervals of healthy activity between the times of stupor present no marked phenomena to distinguish them from the common state of the pigeon.

There are some other differences between the spasms from chilling the spine or cerebellum, and those from wounding the latter organ. In cerebellar injury the head is carried well back and high up. During the somersaults it is drawn further and further back, until the bird rolls head over tail.

In the spasms from chilled spine or cerebellum, the head is carried at ease during the intervals between the fits; but at the moment of attack the bill strikes the floor quickly, first on one and then on the other side, the head being drawn violently forwards. Even in the most terrible of the somersaults caused by cold, the head was drawn forwards, and the backward turn was produced by the action of the muscles of the legs and wings, rather than by those of the back, neck, and spine.

It remained to determine if, when the cerebellum was severely injured, or ablated, I could still obtain the typical backward spasms on freezing the spine.

I found that when the cerebellum was partially injured, so as

to occasion turning, or backward somersaults, that an after application of cold to the spine, would introduce into the convulsions rare attacks of the peculiar form of retro-spasm, which were characteristic; that is to say, the pigeon would retreat, with first a spasmodic flexion of the head and neck.

When I ablated the cerebellum, so as to produce utter want of coördination, I always failed to secure the display of any backward motion, upon afterwards chilling the spine. To settle this question more thoroughly, it will be necessary to ablate the cerebellum, and keep the pigeon until it recovers the power to control its movements, as does sometimes happen.

If then it should continue to have retro-spasms upon freezing the cervical spine, we might reasonably conclude that these spasms do not exact the interference of the cerebellum—a question which, after all, I should not have thought it necessary to raise, if the peculiar retrogressive nature of the fits had not pointed to this organ, for, up to this time, as I have stated, no other has been known to possess the power to originate this special form of convulsive action.*

At present, therefore, I cannot attribute the spasms from cold to the spine alone; and, indeed, I feel strongly inclined to regard this organ as merely the point of departure of a morbid excitation which is finally translated, so to speak, by the cerebellum, into a language of its own, and thus occasions a peculiar form of compulsory movement.

While considering, in this connection, the whole train of symptoms which follows the use of cold on the spine, there is still left for consideration the state of stupor to which the animal becomes liable when so treated.

This sympton is often slight in character, but is sometimes so well marked that it resembles the deepest sleep, and even approaches the condition of coma. It then becomes plain that this is a state of system in which the cerebrum is affected, and for a time loses its functional activity. Of this there can be no possible doubt. As it was suggested, however, that the stupor might be due to the general depression of temperature caused by the freezing, I made numerous experiments to settle the question thus raised. For this purpose I chilled or froze muscular and other parts for five minutes at a time, but without obtaining stupor or spasms. Moreover, I found that both

* Elsewhere I have mentioned the medulla oblongata as having been supposed capable, when injured, of causing retro-pulsion. There is, however, some doubt on this point; but, at all events, my reasoning would apply to any organ in the head which might be presumed to have this property.

symptoms often continued unaltered, when the pigeon had regained its normal standard of temperature.

If, therefore, chilling the spine determines a marked *cerebral* disturbance, there is no reason why we might not assume, with logical propriety, that the *cerebellum* may be ultimately responsible for the backward spasms. Without being at all sure of this, I beg leave to offer the above considerations as casting some light on a point which I still regard as most obscure.

In dealing with this subject I have neglected to consider the possible share which the medulla oblongata may have in causing backward movements. Magendie considered that both this organ and the cerebellum were the seats of a normal forward impulsion. The corpora striata were, as he conceived, the centres of an opposite tendency, so that, when the two former organs were wounded, the balance was destroyed, and retrogression took place.

Apart from his theory—from which most recent biologists, excepting Vulpian, have totally dissented—it is enough to know that the medulla oblongata may give occasion to these motions, so that it is not impossible that the backward spasms which follow chilling of the spine may be finally referable either to this centre, or to the cerebellum, or to both.

I have never caused such movements by injuring the medulla oblongata, and the passage in which Magendie states the fact is a very brief one.* If, however, he be correct, and if chilling the spine can cause backward spasms by an indirect influence on higher nerve-centres, whatever I may have said in regard to the cerebellum is equally applicable to the medulla oblongata, or to any part whose direct lesion is known to produce retrograde spasms.

We have still to study the nature of the injury done to the spine or brain by cold applied through the skin or directly.

It was seen throughout my experiments, which have reached to ninety in number, that in almost every case an appreciable interval—and often a long one—existed between the close of the freezing and the access of the spasms. This period varied from a few seconds to twelve minutes. If there was any primary effect, it was merely feebleness, or disorder of movement. When I noticed these facts, I suspected at once that what is seen on the skin after freezing, repeats itself in the nerve substance. First, there is chilling and contraction of bloodvessels, and then actual freezing, which is rarely very deep. Indeed,

* Précis de Phys. Magendie, ed. 1836, p. 409.

I have found it most difficult to freeze the pigeon's entire breadth of spine. When this does occur in the upper cervical region, death by apnœa follows at once.

The freezing being over, the part thaws, and long-continued, intense congestion ensues, as any one may observe who will try the effect of the ether or rhigolene douche on his own skin.

It only remained to see if this congestion actually took place in the nerve-substance, as I suspected it must do.

To determine this point, I laid bare the cerebrum of a large pigeon, and carefully noted the color of the tissue, and the number and position of the chief vessels of the meninges. The jet of rhigolene was then used directly on the part. The visible vessels were instantly frozen, with their contents. As the part thawed, it became intensely congested, the brain darkening distinctly, and the vessels of its transparent coverings increasing in size and number, so that those which could before be seen were larger, and new ones, previously unseen, came into view.

This experiment was repeated several times, with no essentially different result.

In the last mentioned experiment I had preserved the cerebral meninges intact. On a second pigeon I repeated the observation, removing the membranes with great care. I found that several large vessels penetrating the brain from below, came to the surface, and were for the most part torn asunder in displacing the membranes. I chilled the bare cerebrum, covered with thin caoutchouc for half a minute. As it thawed, an intense congestion appeared, with numerous points of much deeper color. This condition increased during several minutes, but caused no notable disturbance of function.

In the spine of the pigeon I have thought I could see a deepened color after freezing, but of this I am not sure, owing to the small size of the cord. When, as I shall presently show, we act on this part by other irritants than cold, the resultant congestion is no longer doubtful.

The singular convulsions and stupors which I have described are therefore due, as I think, to the palsy of the vessels which have been chilled by the cold, and which may or may not have undergone previous extreme contraction. The congestion from cold, whether in the nerve tissue or the skin, is most intense at a certain time after the part has thawed, and it is then in the centres that the excitation becomes such as to determine a convulsive attack. These facts naturally incline me to regard the congestion as the essential parent of the nerve changes, which finally result in the spasm and stupor. We should not lose

sight, however, of the possibility of the nerve-substance being itself directly altered by the intense cold to which it is subjected. While, therefore, I consider the congestion which does certainly occur as competent in the case, it is well to remember that the nerve-cells may be most seriously affected during the physical changes of condition, which great alternations of temperature occasion.

My success in causing spasms and other phenomena by the aid of cold, at once led me to anticipate the most interesting results from this method of research, for, if it were now in our power to create in a nerve-centre such a congestion as should allow us to study its effects, and if passing away it should leave the animal in a state of health such as beforehand no one could have looked for, I could not but hope that most important results in the study of pathology might thus come within our reach.

Since, however, it was very difficult to limit perfectly the influence of cold, I endeavored to see if, by other means, I could reproduce the phenomena which cold had enabled me to discover. The production of the backward spells was a very good test. If they were due to congestion, irritants, such as heat and acids, alcohol, etc., should also occasion them by causing an increased flow of blood to the spine. Besides, the local congestion thus created would be manageable, and enable me further to control the phenomena for purposes of study.

After numerous experiments I succeeded in attaining the desired end, and in causing by irritants spinal congestion and backward spasms; that is to say, the same train of symptoms which succeeded the use of cold.

Expt. 25. The spinal cord was exposed in a pigeon's neck, and water, at a temperature of 165° F. was thrown on it gently from a syringe; about three ounces were used. Released, it walked away, and showed no notable immediate result. After half an hour, I repeated the observation twice, using again water, temperature 165° F., and lastly, temperature 190° F. The use of the fluid in fine stream may have lowered the temperature a little, but it certainly coagulated the flowing blood and the bared muscular tissue. Yet to my great surprise the only immediate symptom was a little weakness. The pigeon was observed for an hour, and again three hours later, but exhibited no enforced motions. It was found dead the next morning.

Expt. 26. I dropped strong ammonia on the bare cervical cord of a pigeon. It seemed to cause pain. The bird moved

about restlessly, and at last fell with enfeebled respiration, which became rapidly worse, destroying life in a few minutes after the application to the spine.

In this case the irritant was too strong and acted as a caustic. The effect of the heat (Expt. 25) I cannot explain, and will only observe that the observation was incomplete, as the pigeon was not watched constantly after the operation.

In the next observation I made use of tincture of capsicum as the irritant.

Expt. 27. The cervical spine was bared at the fourth cervical vertebra, and treated with six or eight drops of tincture of capsicum. I observed no results during two hours observation of the bird, except feebleness and uncertainty of gait. I had cut the posterior spinal vein in my dissection, and I was not sure how much of the symptoms might be due to loss of blood. The following afternoon, twenty-five hours later I reëxamined the pigeon. To my great satisfaction, it had marked attacks of backward motion, but no somersaults. It died forty-eight hours after the operation.

Expt. 28. Exposed cervical cord, at the fifth vertebra; dropped on it six drops of tincture of capsicum. As the capsicum was applied the long posterior vein of the cord, which I had exposed, but not cut, was seen to dilate suddenly, as though forcibly filled or paralyzed, and the cord visibly darkened, while a sudden hemorrhage disclosed itself on the edges of the incision. When set free, the pigeon was very unsteady, and rolled about on its feet as it walked; I then washed away the tincture with a little water and the aid of a pipette.

At the third minute, distinct backward movements were seen, with the usual dipping of the beak. At this time the spinal substance was intensely congested, but no distinct vessels could be seen. The backward movements occurred at intervals up to the seventh minute, when stupor took place. After this time the spasms took place mostly when the bird was roused from the stupor. This latter condition was not so profound as after the chilling, but lasted longer. After an hour and seventeen minutes he still had very violent backward motions, which continued for ten seconds or more at a time, when the stupor returning, interrupted them.

Twenty-four hours later this bird was well, to appearance, ate and drank as usual. The backward movements still continued, but ceased within thirty-six hours. At the end of a week the pigeon was well and active. It died five weeks later; but through an accident; no *post mortem* examination could be made.

It thus appears that the backward movements may be excited by agents, which, like tr. capsici, irritate, congest, and, perhaps, by virtue of the alcohol, chemically alter the spinal tissue. It is notable, also, that, as in spasms from cold, so in those caused by an irritant, the attacks appear only after an interval has elapsed, and are therefore not due to primary alterative influences, chemical or other.

I believe that I have made clear, in the foregoing paper, the following points: That cold may be made valuable as a means of studying the functions of nerves and nerve-centres; first, by chilling the organ down to the temperature, as yet undetermined, at which its functions cease. Secondly, by the congestion which follows, and which enables us to imitate at will a pathological condition, and thus to forward the synthetic study of neural disease.

With the aid of cold, and of the irritants which its use suggested, I have occasioned in birds, (pigeons and chickens,) a peculiar form of spasmodic or enforced movements, consisting in somersaults and sudden backward walking, such as have not been previously observed by physiologists, except when the cerebellum was mechanically injured.

I may be permitted to state, in concluding, that I regard as incomplete the research which I have described. Even the primary questions in connection with it are not all answered to my satisfaction, while so large a number of secondary points of interest have presented themselves as to make it quite unlikely that I should find time just know, among more pressing occupations, to give them the attention they will receive, I trust, from others than myself. Some, at least, of these investigations I hope myself to undertake at a future period.

In my present series of experiments I have been aided throughout by my friend, Dr. Wm. W. Keen, to whom I am much obliged for many valuable suggestions.—*Am. Journal Medical Sciences.*

THE PERMANGANATE OF POTASH IN THE TREAMENT OF CARBUNCLE.

By THAD. L. LEAVITT, M.D., Germantown, Pa.

The beneficial effects accruing from the local use of permanganate of potash in the treatment of sloughing ulcers, phlegmonous erysipelas, and hospital gangrene, having been most

thoroughly tested and proved during the last year of the war, in army hospital life, it occurred to me that its peculiar remedial qualities would alike prove successful in that most painful and distressing lesion, carbuncle, originating, as it also does, from a depressed vitality, and a morbific condition of the blood. The most satisfactory and encouraging results have been obtained in the only cases in which I have had an opportunity to employ it.

Mrs. R., *æt.* about 60 years, was visited, during the absence from town of her family physician, and found suffering terribly from a carbuncle located upon the left shoulder-blade, just above the spine of the scapula, and occupying the supra-spinous fossa. Loss of sleep, constant pain, and a naturally nervous temperament combined, induced a mental disturbance almost amounting to delirium. The tumor was in its sixth day, with all the general accompaniments, of the size of a hen's egg, tumid, tense, and shining. A free crucial incision had been made two days before, but with no relief; dense areolar tissue, puffy granulations, and sanious oozings crowded the track of the knife, with no appearance of separation or healthy action. The pulse was quick and compressible, 110 beats in the minute; countenance anxious and expressive of great pain; bowels regular. A strong solution of the permanganate of potash (℥ss. to f℥j.) was immediately applied with a brush, and a dressing saturated with it, covered with oiled silk, placed upon the shoulder. Anodynes, beef-tea, milk-punch, tincture of the chloride of iron, and quinia were administered. The same evening, the patient was again seen, and expressed herself as feeling much relieved; pulse 98, and gaining in volume and elasticity. The next morning, the dressing was removed, and already, although but twenty-five hours had elapsed, true pus had begun to form, the intense pain had subsided, and the patient, to use her own language, declared it "a miracle;" the pain had vanished, the fever was gone; she had slept well, and felt some appetite for food. A few days longer the potash was continued; the slough separated, and the wound healed in the short space of one week.

Mr. C., *æt.* 50 years, shoemaker; was visited July 30th, 1866. Had been sick three days, was found suffering intensely from a carbuncle, situated upon the abdomen just below the umbilicus, of the size of a large walnut, and involving the surrounding structures in an erysipelatous inflammation. Bowels constipated; high fever; pulse 120; heavy breath; tongue furred; anxious countenance; great restlessness and general uneasiness characterized his principal symptoms. Hop and

laudanum poultices had been applied, but he had been gradually growing worse, and approaching the condition described, the tumor increasing daily, the parts becoming more dense, and at last an ichorous pus exuded from several small openings. Mild purgation, after which supporting and stimulant treatment was instituted. A slight incision was made, and the permanganate applied, as in the previous case, the dressings being removed once in twenty-four hours. This case was seen seven days successively; the 13th of August he returned to his work, the severity of the suffering having been arrested after the first application.

Mrs. A., *æt.* about 49 years, having suffered a few days from a supposed furuncle, and the pain becoming intolerable, called in medical aid. There was found upon the inner face of the left thigh, just below the nates, a well-marked, though small, carbuncle; a very slight incision was made and the potash dressing used. No constitutional treatment at all was inaugurated; in three days all signs of carbuncle had disappeared, and the line of incision was healing nicely.

The results in this case were mutually gratifying, from the fact that about six years ago the patient suffered from a series of carbuncles, appearing in succession, along the spinal column, from the back of the neck to the region of the lumbar vertebræ, and, lasting all through the winter months, her dread and fear of similar suffering were very great. The permanganate of potash has been eminently successful with me in the treatment of chronic ulcers. The following case, of many years' duration, and which had resisted all efforts, yielded to the remedial properties of this preparation.

Arthur M., tavernkeeper, *æt.* 45 years, had a chronic indurated ulcer, of sixteen years' standing, extending over the superior face of the right leg, about four inches below the tubercle of the tibia, and spreading backward on both sides to the malleoli, covering a surface of about twenty-eight square inches, deep and burrowing in some localities, and in others merely superficial; the whole leg and foot were much swollen and anasarcous, the toes merely protruding from a shapeless mass of flesh closely resembling the foot of a young elephant. An ichorous discharge of a horribly offensive character, together with filthy dressings, augmented the destruction of the surrounding parts.

The advice of an eminent surgeon had been secured a few weeks previously, to the effect that but one alternative remained, amputation; and, indeed, all appearances favored such

a decision. Proper abstinence, tincture of iron, and good diet were directed. The local use of a strong solution of the permanganate of potash and judicious bandaging have already done so much for this case that, at the date of writing, the tenth application of the potash, six square inches, will more than cover the small amount of ulceration remaining, so rapid have been the healing process and the formation of firm, healthy tissue; and, in a few days more, we can confidently prognosticate a complete cure.—*Amer. Jour. Med. Sciences.*

REMARKS ON CANCER IN CONNECTION WITH THE VITAL NERVOUS SYSTEM AND THE BLOOD.

OBSERVATIONS OF DR. PAUL BROCA, SURGEON L'HOSPITAL SAINT ANTOINE, PARIS.

By JOHN O'REILLY.

"When the yellow, straw-colored appearance" of the skin manifests itself, the operation for cancer should not be performed; because the blood is then infected by the cancerous poison (*suc cancereux*), and the vital nervous system is brought under its influence; the vital glands in which the arteries terminate and veins commence, are now dyed with the coloring of the cancer contained in the blood, precisely as they are dyed by the bile in the case of jaundice, or as they become dyed a bluish color by the oxide of silver in the patient who has been treated for epilepsy with nitrate of silver.* Let me quote from Dr. Broca's work on Tumors, page 332.

"In other words, we admit that the elements of the disease succeed each other in the following order:

*This is the best proof that can be advanced that the arteries terminate in glands, and that the veins commence in capillaries from the glands. The arterial blood, containing the silver, is carried as far as the vital glands, where the silver is arrested in its progress through the glands, and where, being exposed to the light, forms an oxide of silver, that gives the bluish tinge to the skin; the silver thus being literally sifted out of the blood. The necessity for understanding this matter well, will be gleaned from what Dr. Broca says, at page 370:

"Nos connaissances ne sont ni plus ni moins avancées sur ce point qu'elles ne le sont a l'égard de la cause immédiate des boutons varoliques, des ulcérations de la morve, des éruptions folliculeuses de la fièvre typhoïde et du choléra, et des manifestations multipées de la syphilis constitutionelle, lesions anatomiques développées, comme les tumeurs par infection sous l'influence d'un état général de l'économie."

"1. The *diathese* or hereditary predisposition produces the primitive cancer.

"2. That produces the infection.

"3. The infection produces the multiplied secondary tumors, the cachexia and death."

If an operation for cancer is decided on, what is the most feasible time for performing it, or when is the operation likely to be followed by temporary success?

Let it be here remembered that Dr. Broca has conclusively established (page 335) that cancer is an hereditary (*diathese*) disease, and that the operation can never be performed with the same certainty of ultimate success as an operation for lithotomy or hernia, when the patient is operated on before the poison is absorbed into the blood from the part or organ affected, and before the vital nervous system is contaminated. "The experiments performed by M. Langenbeck (page 348) illustrate this point, that the *suc cancereux*, when injected into a vein, is capable of producing the disease in a dog"—so in like manner the *suc cancereux*, when taken into the venous circulation of a man, is capable of producing cancer in any part or organ of the body.

"When an individual," says Dr. Broca (page 333), "born of sound parents, becomes the subject of cancer—for example at the age of forty years—and dies in about three years in the natural progress of the disease, after having presented, during the last year, all the signs of cancerous infection," etc., etc.

It will be seen from these remarks of Dr. Broca, that the poison is not absorbed, or rather that the blood, and consequently the vital nervous system is not poisoned until the year previous to the death of the patient, showing that the operation should be performed during the first year. In corroboration of this Dr. Broca remarks (page 355): "It is well known that the circumscribed encephaloid, or what is commonly called encysted encephaloid, can exist for a long time, and acquire a very large size without infecting the constitution."

When the blood is poisoned, no person can tell, after the operation is performed and the disease locally removed, where it may next appear; as for example it may appear in the wound, or in some distant part or organ of the body;* this doctrine is

*"Relapses by repullulation," as they are termed by Dr. Broca (page 375), are the result of general poisoning of the vital nervous system, through the agency of the blood, from the part primarily affected, or through hereditary (*diathese*) taint.

In the case of a dissecting wound, the poison is first localized in the wound, as in the case of localized cancer; but after the lapse of some days, the poison

strengthened by its analogy to other cases, as where a person gets a dissecting wound; after a certain time he manifests all the symptoms of being poisoned. The condition of the original wound at this period, according to the description by Professor Colles, of the Royal College of Surgeons in Ireland, of the case of Dr. Dease, given in the Dublin Hospital Reports, a vesicle existed corresponding to the wound, showing that the poison had acted on the vital nerves of the wound before being carried into the general circulation of the blood, and before poisoning the vital nerves in the heart and in the internal coat of the arteries.

When a man receives the bite of a rabid animal, the original wound may be healed, with the vital nerves at the same time poisoned; but when the *rabies* sets in, the wound will be observed to become inflamed, as has been noticed by Professor Colles in his lectures showing that the poison had been there for a certain period, remaining dormant, until it passes into the arterial circulation and poisons the vital nerves of the heart and arteries, causing death.

It is to be remarked that certain poisons act more promptly on the vital nervous system than others; as, for example, the venom of certain reptiles will kill in periods from one to three hours.

In the case of a dissecting wound, some time may elapse before the whole vital nervous system is brought under the influence of the poison; in other words, the poison may remain located in the wound twenty-four hours before it is absorbed into the blood, and consequently before it poisons the vital nervous system.

In the case of a bite of a rabid animal, weeks or months may pass by before the poison is carried from its original location in the wound to the vital nervous system through the blood. In

is propagated to distant parts of the body; as, for instance, in the case of Mr. Dease, who received a dissecting wound in the thumb, on the 13th of February, 1819, at 1 o'clock P.M. A vesicle of the size of a small pea, was observed at 9 P.M., on Tuesday, 16th; on Sunday, 21st, a swelling was observed on the anterior part of the right arm; and Mr. D. died at 10 P.M. the same evening. On Monday morning, Mr. Colles examined the body; a vesicle of the size of a half dime, had formed on his back; the swelling had extended down the thigh; the left arm was swelled, and rather hardened from the elbow nearly up to the shoulder; the swelling was chiefly along its anterior surface, but it could also be felt all around, yet there was no redness or vesication of the limb.

Any person can see the analogy between the relapses by repullulation in the case of cancer, and the condition of remote parts in the case of the dissecting wound—the vital nervous system being poisoned in both cases, but by different poisons.

the case of a cancer, years may elapse before the poison manifests itself, by entering the blood from the parts locally affected, and brought in contact with the whole vital nervous system.

The practical deduction from all these facts is, that not a moment should be lost in removing, by the knife, the part infected, in the case of the dissecting wound, the bite of the rabid animal, the reptile, and the virus of the cancer.

What proofs are there that the poison is confined to a particular part for a certain time? The proofs afforded by the phenomena caused by the process of vaccination, and the proofs afforded by the inoculation of syphilitic poison. The local appearances in these cases are too well known to require elucidation.

Where is the poison in these cases located? In the vital glands commonly called the *rete mucosum.* What is the proof that the vaccine matter remains in the vital glands or *rete mucosum?* Because the slight wounds made in vaccination do not pass through the corion or cutis vera; the same explanation is true of the application of the syphilitic poison, as exemplified in the case of chancre, when abrasion of the cuticle takes place, leaving the *rete mucosum* exposed to the infection of poison. I will further add, in connection with these latter remarks, the case of Mr. Hutchinson, stated in the Dublin Hospital Reports (Vol. III), who, on the 1st of December, 1818, received a *slight* scratch of the knife on the outer phalanx of the right thumb while dissecting, and resulted in poisoning the wound.

To give an idea of my theory, let us suppose that a man is bitten by a reptile on the hand; the poison is carried by the absorbents from the wound into the venous circulation next to the right side of the heart; from that to the lungs; thence, after being oxygenized, to the left side of the heart; thence to the arteries all over the trunk, head and extremities, to the *rete mucosum;* thus poisoning the vital nerves of the heart and arteries, causing death. *Let it be observed the heart or arteries receive no nerves from the cerebro-spinal system.**

* The vapor of the chloroform passes into the blood through the lungs with the oxygen of the air, and is carried with the blood to the left side of the heart where it is brought in immediate contact with the internal *surface*, or membrane of the heart, and is next carried into the aorta, where it is brought in contact with the internal *surface*, or membrane of the aorta; so, in like manner, it is carried all over the whole body by the arteries, where it is brought in contact with the internal *surface*, or membrane of the arteries. The blood being charged with the chloroform in periods varying, some short, some long, weakens the powers of life, or destroys it altogether, causing the extinction of life in the vital nervous tissue, by being brought in contact with it so extensively through its *connection* with the heart and arteries.

I will now conclude by remarking that had God preserved the great M. Bichat (who died July 20, 1802, at the early age of 30 years and a few months) to the ordinary age of man, medical science would be now in a vastly higher condition of advancement than it actually is. I am now endeavoring to fill up the hiatus left by him, although not possessed of his genius, talents, or acquirements.

To understand the *modus operandi* of the chloroform, it must be remembered that the left auricle and ventricle of the heart are lined with an exceedingly thin and transparent membrane, which is reflected on the semi-lunar valves, and becomes continuous with the lining membrane, or *surface* of the aorta. The connection between the lining membrane of the heart and the muscular fibres is exceedingly intimate, as well as the valves and the elastic coat of the aorta—so much so, that it cannot be removed, except piecemeal, without breaking up the close and delicate connection which exists between them. The membrane appears to be an expansion, or termination of vessels and nerves, derived from the elastic coat; the elastic and internal coats are one.

The question now may be asked. What is the aorta connected with, externally, besides the cellular coat? With a complex net-work of vital nerves, derived from the aoratic plexus, which completely surrounds the artery. Some of these nerves *perforate* the elastic coat, and are *lost* on the internal *surface*, or membrane. The cardiac (vital) nerves, which supply the muscular fibres of the heart, are derived from the cardiac plexus, and are distributed to the muscular fibres of the heart, and terminate in the lining membrane, or *surface* of the heart. The muscular structure can be seen without dissection.

The observations made with respect to the aorta, are applicable to all the large arteries. Every anatomist knows that they are surrounded by a net-work of vital nerves, some of which are lost in the cellular coat, whilst others *perforate* the elastic coat to reach its internal *surface*, or internal coat, as it is usually called—in this way extending along the artery to the vital gland.

I have just verified the observations made with regard to the heart and aorta, by the examination of the heart and aorta of an ox, February 7, 1867. I recommend others to satisfy themselves by adopting a similar course.*

* Let any person endeavor to peel an apple without removing a portion of the pulp.

114 West Fourth Street,
(Washington Square South).
NEW YORK, *February 9, 1867.*

Book Notices.

The Renewal of Life; Lectures, Chiefly Clinical. By THOMAS K. CHAMBERS, M.D., Honorary Physician to H. R. H. the Prince of Wales; Consulting Physician and Lecturer on the Practice of Medicine, at St. Mary's Hospital; Consulting Physician to the Lock Hospital. Second American, from the Fourth London Edition. Philadelphia: LINDSAY &

BLAKISTON. 1866. pp. 646. Price $5.00. For sale at S. C. GRIGGS & Co.'s., Lake street.

The subjects discussed in this volume are as follows: Death and Life; Disease and Cure; Formation of Mucus and Pus; Typh. Fever; Small-Pox; Rheumatic Fever; Gonorrhœal Rheumatism; Pericarditis; Pleurisy; Hydrothorax; Acute Laryngitis; Capillary Catarrh; Pneumonia; Emphysema of the Lungs; Pulmonary Consumption; Thoracic Aneurism; Disease of the Heart; Purpura; Anœmia; Prominence of Eyeballs; Atrophy of Muscles; Chorea; Epilepsy; Hysteria; Spinal Paralysis; Sciatica; Albumanuria; Ascites; Diabetis; Mortification; Importance of Digestive Organs in Therapeutics; Indigestion in General; Slow Digestion and Acidity; Pain in the Stomach; Emetation and Vomiting; Diarrhœa; Costiveness and Constipation; Dietetics; Corpulence; On Pepsine; On Alcohol; On Blood-letting; Review; L'Envoi.

This list of important subjects is pretty fully discussed by one of the most interesting and experienced writers of our day. Hence the practitioner will find it a very valuable addition to his library. The book is published in excellent style.

The Functions and Disorders of the Reproductive Organs, in Childhood, Youth, Adult Age, and Advanced Life; Considered in their Physiological, Social, and Moral Relations. By WILLIAM ACTON, M.R.C.S., late Surgeon to the Islington Dispensary, and formerly Externe to the Venerial Hospitals, Paris; Fellow of the Royal Med. and Chir. Society, etc., etc. Second American, from the Fourth London, edition. Philadelphia: LINDSAY & BLAKISTON. 1867. pp. 291. Price $3.00. For sale by S. C. GRIGGS & Co., Lake Street, Chicago.

The subjects treated in this work, are as follows:—Normal Functions in Childhood; Sexual Precocity; Masturbation in Childhood; Normal Functions in Youth; Continence; Celibacy; Early Marriages; Early Betrothals; Long Engagements; Incontinence; Masturbation in Youth; Insanity and Phthisis from Masturbation; Sexual Conditions in the Adult; Virility;

Marriage; Sexual Intercourse in Marriage; Marital Excesses; Impotence; Sexual Indifference; Erection and its Morbid Conditions; Emission and its Morbid Conditions; Semen and its Morbid Conditions; Sexual Functions and Disorders in Advanced Life; Appendix; Statistics of Marriage; Prescriptions; Exposure of Quacks. All the foregoing topics are discussed by the author with great candor and ability; and however repulsive the nature of the majority of them may be, they are all worthy of the very careful and enlightened attention of the profession. We know of no work better calculated to do good than the one now under consideration.

Guide for Using Medical Batteries: Showing the Most Approved Apparatus, Methods, and Rules for the Medical Employment of Electricity in the Treatment of Nervous Diseases. By ALFRED C. GARRATT, M.D., Fellow of Mass. Med. Socicty, and Member of the Amer. Med. Association. Philadelphia: LINDSAY & BLAKISTON. 1867. For sale by W. B. KEEN & Co., 148 Lake Street, Chicago. pp. 180. Price $2.00.

This is an abridgement of the large work on Medical Applications of Electricity, by the same author. The present volume will be found very convenient for study and reference, both by students and practitioners. It gives full descriptions and illustrations of the various apparatus for applying electricity in the treatment of disease, and the best methods of using them.

A Vest-Pocket Medical Lexicon: Being a Dictionary of the Words, Terms, and Symbols of Medical Science. Collated From the Best Authorities, with the Addition of New Words not before introduced into a Lexicon. With an Appendix. By D. B. ST. JOHN ROOSA, M.D., Prof. Aural Surgery, etc. New York: WM. WOOD & Co., 61 Walker Street. 1867.

This is just what its title-page would indicate, namely, a very neat and convenient medical dictionary, so small that the student can carry it in his pocket, with perfect ease; and so cheap

as to be within the reach of all. It indicates the accent, or pronunciation, and the direct definition of a large number of words, though in so small a compass.

ORTHOPÆDICS: A SYSTEMATIC TREATISE UPON THE PREVENTION AND CORRECTION OF DEFORMITIES. By DAVID PRINCE, M.D. Published by LINDSAY & BLAKISTON, Philadelphia.

This work of a well-known surgeon of Jacksonville, Ill., comes to us to supply an urgent want in our surgical literature. Our ordinary surgical text-books are wholly insufficient to guide the general practitioner in orthopædic matters, and even the special works on this subject are mostly of a crude and unsatisfactory sort, though containing many valuable ideas. Dr. PRINCE'S work has the merit of containing a careful résumé of the best ideas of the best men, combined with his own special improvements. He has tried to so systematize and simplify the complexities of the subject as to lay the whole of it plainly before the general practitioner. In pursuance of this object, he has taken especial pains to devise forms of apparatus which can be made *extempore*, by members of the profession who have no access to regular instrument makers—a plan which, if carried out, will very much widen the usefulness of orthopædic surgery.

The work is an octavo of 240 pages, and illustrated by nearly 100 wood-cuts.

Part First, consists of a concise discussion of the principles of the science, including the pathology of deformities and of the various joint-diseases, and shows the measures and mechanical appliances adapted to remedy them. It cannot be said that Dr. PRINCE has given an exhaustive view of the pathology of these complaints. Those who wish this must look to other writers. But he has done what to the general practitioner is far more useful, he has given the *main principles* of the pathology, in close connection with the principles of the treatment.

Part Second, deals more closely with special diseases. He commences with hip-disease, because it is, as he remarks, "the lion of its class." After describing the disease, he shows that

the suggestion of the great modern principle of extension for inflamed joints was first made by BRODIE; that Dr. MARCH, of Albany, came very near producing the first portable splint for this purpose, but that Dr. H. G. DAVIS, of New York, first put the principle into a compact and manageable form, and really made the first good hip-disease splint. After figuring and describing the various splints now in use, Dr. PRINCE describes one of his own, which may be constructed by any physician, with the help of a common blacksmith, and which is equally applicable to inflammations of the hip and of the knee-joints.

After treating fully of hip-disease and of inflammations of the knee, the author remarks that, inflammations of the ankle "hardly admit of extension." In this we differ from him. Extension can be applied effectually to the ankle, but it is more difficult, and requires more attention from the surgeon than that of the hip or knee.

The next 50 pages is devoted to spinal curvatures, which are treated of in a sound and practical manner, and two forms of apparatus are introduced, of the author's invention, which can be made by any ordinary blacksmith, thus placing their construction within the reach of the remotest country practitioner. Several illustrations and descriptions of other appliances are also given. It is to be hoped that this plan of devising home-made apparatus will not only greatly benefit many patients who are too poor to go abroad for assistance, but will also turn the attention of general practitioners to this subject, and lead them to comprehend the fact that no ready-made apparatus can be bought, for spinal diseases, which will be of the least use to the patient. Everything must be made to fit the case in hand, or it will be of no use whatever. The so-called spinal supporters, kept ready-made in the instrument stores, are the most worthless trash ever offered to the public. The remainder of the work is occupied with talipes and other deformities. The author presents several excellent inventions of his own, besides a careful condensation of the opinions of others.

On the whole, this work of Dr. PRINCE, though it might be

improved in some respects, is, perhaps, the most practically useful treatise upon orthopædics which has appeared in this country, and we cheerfully commend it to the profession.

E. A.

Editorial.

INJUSTICE TO THE INSANE.—We see in the recent biennial report of the Superintendent of the Hospital for the Insane at Jacksonville. Some pretty severe comments on the laws of this State relating to the method of proving persons insane, preparatory to admitting them into the Hospital. The comments of Dr. MCFARLAND are not more severe, however, than they are just and well timed. The law positively requires the insane person to be brought into the Probate Court-room, before a jury, one of whom must be a physician, and such jury, after hearing the evidence, is to render a decision, as to whether the person present is sane or insane. Every intelligent physician knows that a large number of cases of insanity are of such a nature, that the public exhibition required by the law is directly calculated to aggravate the disease, sometimes even to a fatal extent. And yet the examination before the jury is practically a farce, because five out of six of the jurymen are entirely ignorant of the nature of insanity, and are obliged to rest their decision on the testimony of competent medical witnesses. Hence, the certificates of these same witnesses, duly sworn to, and handed directly to the judge, would afford precisely the same evidence of sanity or insanity, and just as much safety against abuses, as is afforded by the present law. The idea of bringing an insane person into a public court, for the purpose of testing the question of their insanity simply, is a barbarous absurdity.

DELEGATES TO THE INTERNATIONAL MEDICAL CONGRESS IN PARIS.—We learn that the New York State Medical Society, at its recent annual meeting, appointed several delegates to

represent that Society in the International Medical Congress, to be held in Paris next August. We hope all the more important medical societies in this country will do the same, taking care, however, to send only men of eminent ability.

Chicago Medical Society.—The discussion at the last meeting of this Society, was on the entozoæ found in the human species, and their pathological effects. The discussion was an interesting one, and participated in by Drs. Wickersham, C. G. Smith, E. L. Holmes, Paoli, Groesbeck, Reed, Ross, and Davis. Nothing positively new was elicited, except a partial account of a very singular case now under observation in this city; and of which we hope to have a more complete report hereafter.

The Summer Course of Instruction.—The regular reading and Clinical Term of instruction in the Chicago Medical College will commence on the second Tuesday in March, and continue until the first of July following. The instruction will be given by the Faculty of the College, and will consist of one or two familiar lectures and recitations, and one hour of clinical instruction in the Hospitals each day. The clinics in the Mercy Hospital will be given on Monday, Wednesday, Thursday, and Saturday; and in the County and City Hospital, on Tuesday and Friday of each week.

Good *material* will also be furnished to those who wish to pursue dissections. The Spring and Summer Course, as thus arranged, affords very superior advantages to all such students as can remain in the City until July. It ensures a systematic course of practical and demonstrative instruction of the most valuable character, without the crowding of many topics upon the mind the same day, as is necessarily done during the regular Winter Term. It must be distinctly understood, however, that this Summer Reading and Clinical Term is merely supplimentary to the Annual Lecture Term, and in no case to be counted as *one college term* by the student in making up his requirements for graduation.

It has been no part of the objects of the Faculty of the Chicago Medical College to increase the *facilities* for the graduation of students, by making two Lecture Terms in one year, or by adhering to one short and inadequate term. On the contrary, one of their primary and most cherished objects, is to induce medical students to take a higher and broader course of medical instruction, before attempting to graduate. The Summer Course is free to all the matriculants of the College.

PROCEEDINGS OF MORGAN COUNTY MEDICAL SOCIETY.

The Society met at the court house in Jacksonville, at 2 o'clock P.M., on Thursday the 14th day of February.

In the absence of the President and Vice-President Dr. Askew was appointed President *pro tem.*

The minutes of the last meeting were read and approved as printed in the JOURNAL. Drs. DeLeuw and C. A. Edgar were nominated for membership.

As no one of the individuals regularly appointed for the exercises of the meeting were prepared with papers, Dr. Malone was requested to read a paper on the Calabar Bean.

After giving its natural history, he proceeded to its action upon animals and upon the human system—when administered in the usual way—by subcutaneous injection and in other ways. Its local influence upon the eye was more particularly commented upon, and the experiments of quite a number of foreign scientific men were mentioned, and the results of those experiments were, briefly, that the local action of this drug produced first, a sensation of "strong tension in the neighborhood of the ciliary body," and second, "astigmatism or a state of irregular refraction in the eye in which the rays are not brought to one focus, but converge at different distances so as to form two linear images at right angles to each other." This peculiar condition of vision was remedied by concave glasses of proper foci. This astigmatic state existed eighteen hours after its application. Numerous experiments have proven that it invari-

ably causes prompt contraction of the pupil, and that the contraction reaches its maximum in the course of an hour.

Dr. Malone was requested by the Society to publish his paper in some medical journal.

Dr. Prince had prepared and read "the chief points in a case of forward dislocation of the tibia on the astragalus with fracture of fibula, in which at the end of nearly three months the dislocation was found still to exist, having either never been reduced or having become re-dislocated. The displacement at the end of this period was reduced and the parts kept in position by an outside splint of wood, pasteboard, and bandage. The result was a prosecution for damages against the physician first in attendance, on account of alleged malpractice (tried three years after the receipt of the injury), the jury finding for the defendant.

The doctor read the instructions given by the judge to the jury in this case.

Dr. Edgar remarked that he was much interested in the case. The suit evidently grew out of malice. The man was hunted down by his medical brethren of the same county. It arose from want of professional courtesy.

The doctor hoped that medical men would rise above their petty feelings of jealousy and rivalry, and cease to give cause to the members of other professions to hold them upas proverbially quarrelsome.

Dr. Edgar, having prepared some notes on the early history of the introduction of mercurials into the materia medica, was requested to read them to the Society, which he accordingly did. They were listened to with marked attention and interest by the Society.

Dr. Reed made some remarks upon the use of mercurials.

The Society then adjourned to meet on the second Thursday in March, at half-past 1 o'clock P.M., at the court house, in Jacksonville.

C. T. WILBUR, M.D., *Secretary.*

THE BODY OF JEREMY BENTHAM.—The London *Notes and Queries* contains a letter from the late Dr. Southwood Smith, in relation to the disposal of the body of Jeremy Bentham. The letter is dated June 14th, 1857, and says:—"Jeremy Bentham left by will his body to me for dissection. I was also to deliver a public lecture over his body to medical students and the public generally. The latter was done at the Webb Street School—Brougham, James Mill, Grote, and many other disciples of Bentham being present. After the usual anatomical demonstrations over the body, a skeleton was made of the bones. I endeavored to preserve the head untouched, merely drawing away the fluids by placing it under an air-pump over sulphuric acid. By this means the head was rendered as hard as the skulls of the New Zealanders, but all expression was gone, of course. Seeing this would not do for exhibition, I had a model made in wax by a distinguished French artist, taken from David's bust, Pickersgill's picture and my own ring. The artist succeeded in producing one of the most admirable likenesses ever seen. I then had the skeleton stuffed out to fit Bentham's own clothes, and this wax likeness fitted to the trunk. This figure was placed seated on the chair on which he usually sat, and one hand holding the walking stick which was his constant companion when he went out, called by him Dapple. The whole was enclosed in a mahogany case, with folding glass doors. When I removed from Finsbury Square I had no room large enough to hold the case; I therefore gave it to University College, where it now is.

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A NOVEL METHOD FOR THE PRODUCTION OF ANATOMICAL PLATES.—At a late meeting of the Vienna Academy of Sciences, Herr Mach suggested a curious application of photography to the purposes of anatomical education. "If," he said, "you photograph any solid body, such as a sphere, and if before the image has been fully received you substitute for the sphere another solid body, such as a cone, the resulting photograph will be a sort of transparent picture of a sphere enclosing a cone, which, when arranged stereoscopically, will seem perfectly solid and transparent." His application of this principle was thus expressed:—"Place a temporal bone before the camera, and before its image has been fully formed, substitute for it a cast of the auditory apparatus, and you will have a picture in which the internal ear can be seen through a transparent picture of the temporal bone. When this is arranged for the stereoscope, the two parts will be seen in perfect relief."

MONEY RECEIPTS FOR EXAMINER, FROM JAN. 1ST TO FEB. 21ST.—Drs. C. B. Reed $3, L. H. Cary 1, B. Stuvi 3, Wm. H. Byford 3, Orin Peak 3, V. C. Price 3, R. Winton 3, A. G. Jones 3, N. Holton 6, T. Scharer 3, C. M. Robertson 2, W. H. Lyford 3, J. W. Johns 3, J. McLaughlin 3, W. A. Elder 3, Philip Schaffer 3.50, J. S. Bullock 1, J. N. Bishop 3, H. Nance 3, V. H. Coffman 5, T. D. Fitch 5, J. M. Barlow 3, M. F. Bassett 3, Dr. Frazey 3, G. W. Morrill 2, T. Hoffman 3, H. W. Kendall 3, J. Brown 3, S. R. Millard 3, D. W. Young 10, T. D. Fisher 3, J. E. Thayer 2, J. Prestman 2, W. P. Naramore 3, S. B. Davis 5, A. Sheffield 3, Geo. Fredigke 3, Addison Niles 3, M. Shephard 3, J. F. McCormick 3, J. H. Goodell 3, T. M. Tyler 3, H. P. Oggell 3, C. T. Lichtenberger 5, M. Parker 3, A. M. Maxwell 3, E. P. Cook 3, A. G. Edwards 3, David Newell 3, L. Humphreys 3, R. Bolton 3.

CHICAGO MEDICAL COLLEGE.

The regular Annual Lecture Term in this Institution will commence on the first Monday in October, and continue until the first Tuesday in March following. Clinical Lectures *daily* throughout the term.

FACULTY.

N. S. DAVIS, M.D., Professor of Principles and Practice of Medicine, and of Clinical Medicine.

W. H. BYFORD, M.D., Professor of Obstetrics and Diseases of Women and Children.

EDMUND ANDREWS, M.D., Professor of Principles and Practice of Surgery, and of Military Surgery.

F. MAHLA, Ph. D., Professor of Organic Chemistry and Toxicology.

H A. JOHNSON, M.D., Emeritus Professor of Gen. Pathology and Public Hygiene.

J. S. JEWELL, M.D., Professor of Descriptive Anatomy.

J. H. HOLLISTER, M.D., Prof. of Gen. Pathology and Public Hygiene.

RALPH N. ISHAM, M.D., Professor of Surgical Anatomy and Operations of Surgery.

M. O. HEYDOCK, M.D., Professor of Materia Medica and Therapeutics.

F. MAHLA, Ph. D., Professor of Inorganic Chemistry.

R. J. PATTERSON, M.D., Professor of Medical Jurisprudence.

DANIEL NELSON, M.D., Lecturer on Physiology and Histology.

J. M. WOODWORTH, M.D., Demonstrator of Anatomy.

For the Winter Term, admitting to all the Lectures in the College,	$50.00
Graduation Fee,	20.00
Matriculation Fee,	5.00
Dissecting Ticket,	5.00
Hospital Ticket,	6.00

The Summer Reading and Clinical Term commences on the second Tuesday in March, and continues until the first Tuesday in July; and is free to all matriculated Students of the College. Boarding, $3.50 to $4.50 per week. For further information, address

E. ANDREWS, *Sec'y of the Faculty.*

Bellevue Hospital Medical College,

CITY OF NEW YORK.

SUMMER SESSION—1867.

In accordance with a plan entertained when the Bellevue Hospital Medical College was established, the Faculty of the College have instituted a Summer Course of instruction, the first Session to take place in the Summer of 1867. The plan is to inaugurate a collegiate year of medical instruction, with a Spring vacation from the termination of the Winter to the beginning of the Summer term, and a Summer vacation lasting from the end of the latter term to the ensuing Autumn and Winter Session. The following are objects of the Summer Session: To provide instruction in the branches which cannot be fully taught during the regular Winter Session, thereby enlarging the curriculum of medical study; to furnish inducements to medical students and graduates who have attended lectures in the Winter Session to remain or return to attend more or less of the courses in the Summer Session, and also to induce the attendance of students who design to attend the ensuing Winter Session; to offer opportunities to practitioners of medicine, desirous of spending some time in the metropolis for medical improvement, and who can come more conveniently in the summer than during the winter months; to present facilities for the prosecution of certain special subjects in medicine; to make available, for the summer as well as the winter months, the resources of clinical teaching in which the city of New York abounds; and, finally, to enable the student to pursue his medical reading with the advantages of competent direction and daily recitations. The Faculty respectfully invite the attention of medical students and members of the medical profession to the importance of these objects, as calculated to render medical instruction more complete and thorough.

FACULTY OF THE SUMMER SESSION.

HENRY D. NOYES, M.D., Professor of Ophthalmology, and Dean of the Summer Faculty.
J. LEWIS SMITH, M.D., Lecturer on Morbid Anatomy.
FOSTER SWIFT, M.D., Lecturer on Diseases of the Skin.
PROFESSOR WM H. VANBUREN, M.D., Lecturer on Diseases of the Genito-Urinary System.
PROFESSOR R. OGDEN DOREMUS, M.D., Lecturer on Animal Chemistry.
PROFESSOR AUSTIN FLINT, JR., M.D., Lecturer on Microscopical Anatomy.
PROFESSOR GEORGE T. ELLIOT, M.D., Lecturer on the Diseases of Children.

The Summer Session will commence on the first Wednesday in April, and end in the early part of July, 1867. The course of lectures in each of the several departments of instruction will consist of about twenty-five lectures; at least two lectures in each course will be given weekly, making about three didactic lectures daily during the Session. In addition, clinical instruction will be given at the Bellevue Hospital, and at the Charity Hospital, Blackwell's Island.

A daily recitation will be provided for by the Faculty during the Summer Session. *The recitations will embrace the departments of instruction which enter into the curriculum of the Winter Session.* Attendance upon the recitations during the Summer Session, without as well as with attendance on any of the course of lectures, will entitle the student to a certificate of pupilage, which, together with the tickets for the courses of the Winter Session, will be recognized by the Bellevue Hospital Medical College as evidence of a year of medical study. The fee for the recitations is $30. The recitations are continued during the Winter Session, and, on payment of a fee of $50, the student will receive a ticket for the recitations during both the Summer and the Winter Session. The ticket for the recitations is voluntary, and is not required of those who take out tickets for any or all the courses of lectures. The fee for attendance on each of the courses of lectures, exclusive of clinical lectures, is $10. Attendance on the courses is voluntary; the tickets for each course may be taken out separately. The fee of $10 for each course will be required from graduates and practitioners, as well as students. No fee will be required for attendance on the clinical lectures, except the matriculation fee.

The matrriculation fee is $5, and must be taken out before the tickets for the full Summer course or any of the special courses or the ticket for the recitations are issued. This fee will not be required again from those who have attended during the Summer Session for the succeeding Winter Session in Bellevue Hospital Medical College. Attendance on the courses during the Summer Session will not be considered as equivalent to an attendance on one of the two Regular Sessions required by law for graduation, nor will any of the courses in the Summer Session be considered as a substitute for any of the courses in the Regular Session, as regards the requirements for graduation.

A certificate of attendance on the several courses in the Summer Session will be conferred at the close of the Session, and the names of those who have attended will be publicly announced at the Annual College Commencement.

The lectures and recitations will be held in the commodious building of the Bellevue Hospital Medical College, situated within the grounds of the Hospital, between Twenty-sixth and Twenty-eighth Streets, on the East River. Students and practitioners, on arriving in the city, are requested to report at the Hospital, and inquire for the Janitor of the College, who will aid them in procuring comfortable accommodations without delay. The entrance to the Hospital is on Twenty-sixth Street.

For further information address

PROF. HENRY D. NOYES, M.D., 65 Madison Avenue,
Dean of the Summer Faculty; or
PROF. AUSTIN FLINT, Jr., M.D.,
Secretary Bellevue Hospital Medical College.